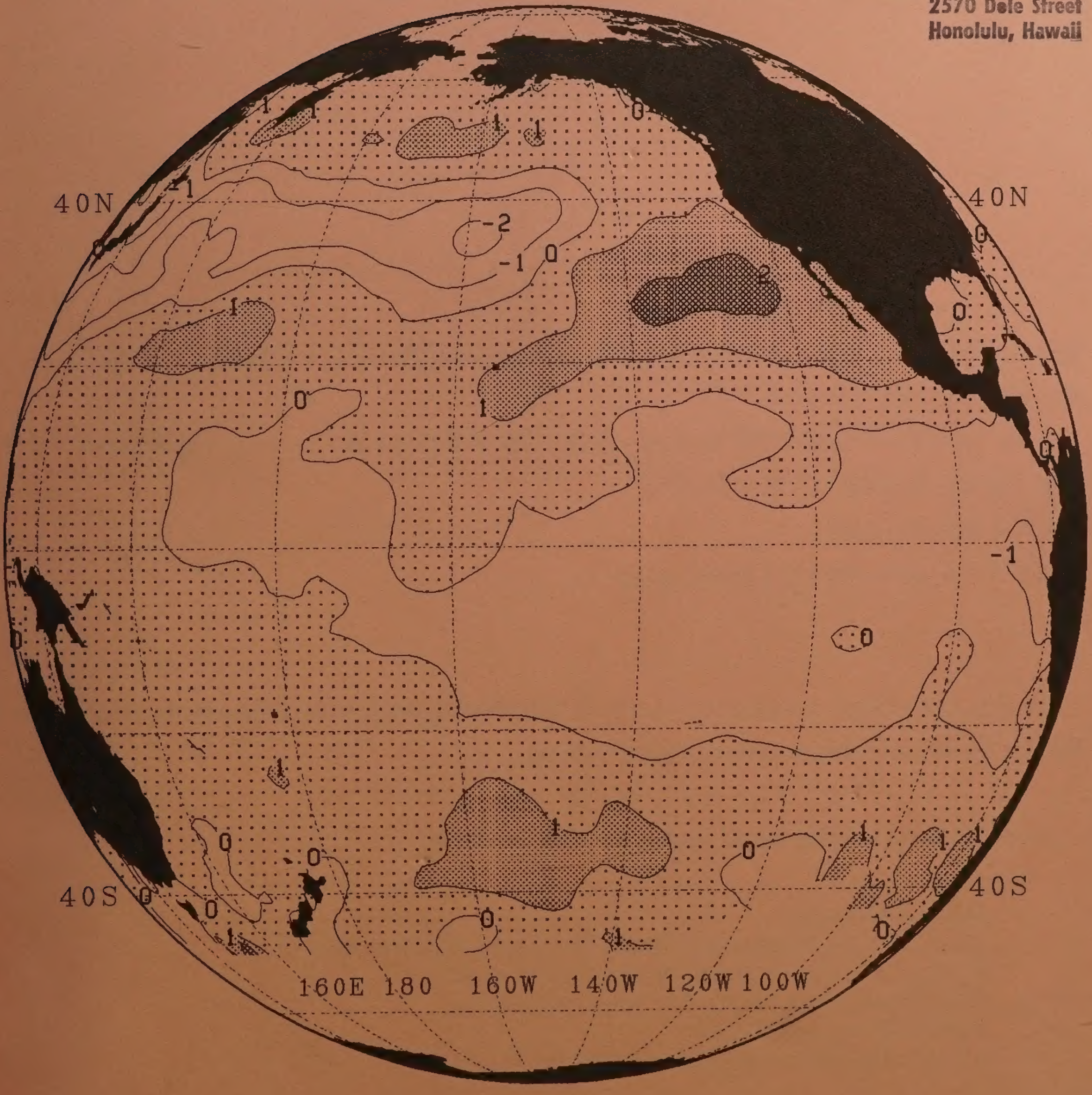
気象庁海洋月報

Monthly Ocean Report

May 1996 (No. 41)

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El Niño Monitoring Center
Japan Meteorological Agency

気象庁海洋気象部海洋課
エルニーニョ監視センター

平成8年5月

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本月報に関する問い合わせは、

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Monthly Ocean Report is prepared by the El Niño Monitoring Center, Oceanographical Division, Marine Department, Japan Meteorological Agency.

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表紙は、1996年５月の太平洋の月平均海面水温偏差図です。
陰影部は、平年より高温の海域を示しています。

The figure on the front cover shows the monthly mean SST anomalies for May 1996 in the Pacific Ocean.
Areas of positive anomalies are shaded.

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海況の特徴（１９９６年５月）

太平洋の海況

太平洋赤道域の海面水温は、東部の115°W以東では平年より0.5℃以上低く、特に、90°W付近では１℃以上低かった。一方、西部では平年より高く、特に150°E以西では平年より0.5℃以上高かった。エルニーニョ監視海域（4°S～4°N、150°W～90°W）の海面水温偏差は、-0.4℃だった（第１表、第１図、第６図）。

太平洋の赤道に沿った表層水温は、東部では海面から深さ100m付近まで平年より１℃以上低く、西部では水温躍層付近で大きな正偏差が見られた（第９図）。

気象庁の観測船「啓風丸」は、本年５月に本州南方から３°Nに至る137°E線に沿った海洋観測を行った。この観測と昨年６月に行われた同様の観測を比較すると、本年は昨年に比べ、深さ100m～300mの水温が３°N～５°N付近で高く、８°N付近では逆に低くなっていた（図A）。

北太平洋の海面水温は、日本の南及び30°Nから40°Nの150°Eから150°Wにかけて、平年より１℃以上低かった。一方、北米西岸沖及び45°N以北では平年より高く、特に北米西岸沖の140°Wから120°Wでは平年より２℃以上高かった（第６図）。

日本近海の海況

日本近海は、全般に平年より低く、特に関東から北海道にかけての太平洋沿岸、日本海、本州南方では平年より１℃以上低かった（第24図）。

黒潮は、九州・四国に接岸して流れた後、紀伊半島から東に向かい、上・中旬は八丈島と三宅島の間を、下旬は三宅島付近を経て、房総半島沖を上旬は北東に、中・下旬は東に流れていた（第27図）。

本州東方の親潮系の冷水は、沿岸寄りの分枝は41.0°N,143.4°E付近まで、沖合の分枝は38.1°N,144.0°E付近まで、それぞれ達していた（第26図）。

熱帯の気象

対流活動は、太平洋西部とＩＴＣＺ、大西洋の赤道付近で平年より活発である一方、中部・東部太平洋の赤道付近では平年より不活発だった。赤道上の850hPaの風は中部太平洋とインド洋では強い東風偏差であったが、海洋大陸や東部太平洋では弱い西風偏差が見られた。熱帯太平洋の海面気圧偏差は150°Wより東で+2hPa以上の正偏差が広がり、ＳＯＩは+0.3となった。季節内変動は対流活動の活発化する位相が太平洋西部から東進し、５月末にはインド洋西部に達した（第１表、第3～5図、第12図）。

［気象庁長期予報課提供］

HIGHLIGHTS May 1996

Pacific

In the equatorial Pacific, sea surface temperature (SST) anomalies lower than -0.5°C were observed east of 115°W, especially around 90°W where anomalies were lower than -1°C. SST anomalies exceeding +0.5°C were found west of 150°E near the equator. The SST index for region B (Fig. 1) was -0.4°C (Table 1 and Figs. 1 and 6).

Negative anomalies lower than -1°C of subsurface temperature were found along the equator in the eastern Pacific, extending from the sea surface to about 100m, while positive anomalies were found near the thermocline in the western Pacific (Fig. 9).

JMA's R/V Keifu Maru observed the subsurface temperature along 137°E from the south of Honshu to 3°N in May 1996. Compared to similar observation in June 1995, temperatures between 3°N and 5°N at the layer between 100 and 300m were higher this May, whereas colder water was found around 8°N (Fig. A).

In the North Pacific, negative SST anomalies lower than -1°C were observed south of Japan and between 30°N and 40°N from 150°E to 150°W. Positive SST anomalies prevailed north of 45°N and off the west coast of North America. In particular, SSTs were more than 2°C above normal off the west coast of North America (Fig. 6).

Seas adjacent to Japan

SSTs were generally below normal in the seas adjacent to Japan, especially off the eastern coast from Kanto to Hokkaido, the Japan Sea and the south of Honshu, where negative SST anomalies lower than -1.0°C were observed (Fig. 24).

The Kuroshio flowed along the coast of Kyushu and Shikoku, then eastward from the Kii Peninsula. After passing between Hachijo Island and Miyake Island in early and middle May and near Miyake Island in late May, it flowed northeastward off the Boso Peninsula in early May and eastward in middle and late May (Fig. 27).

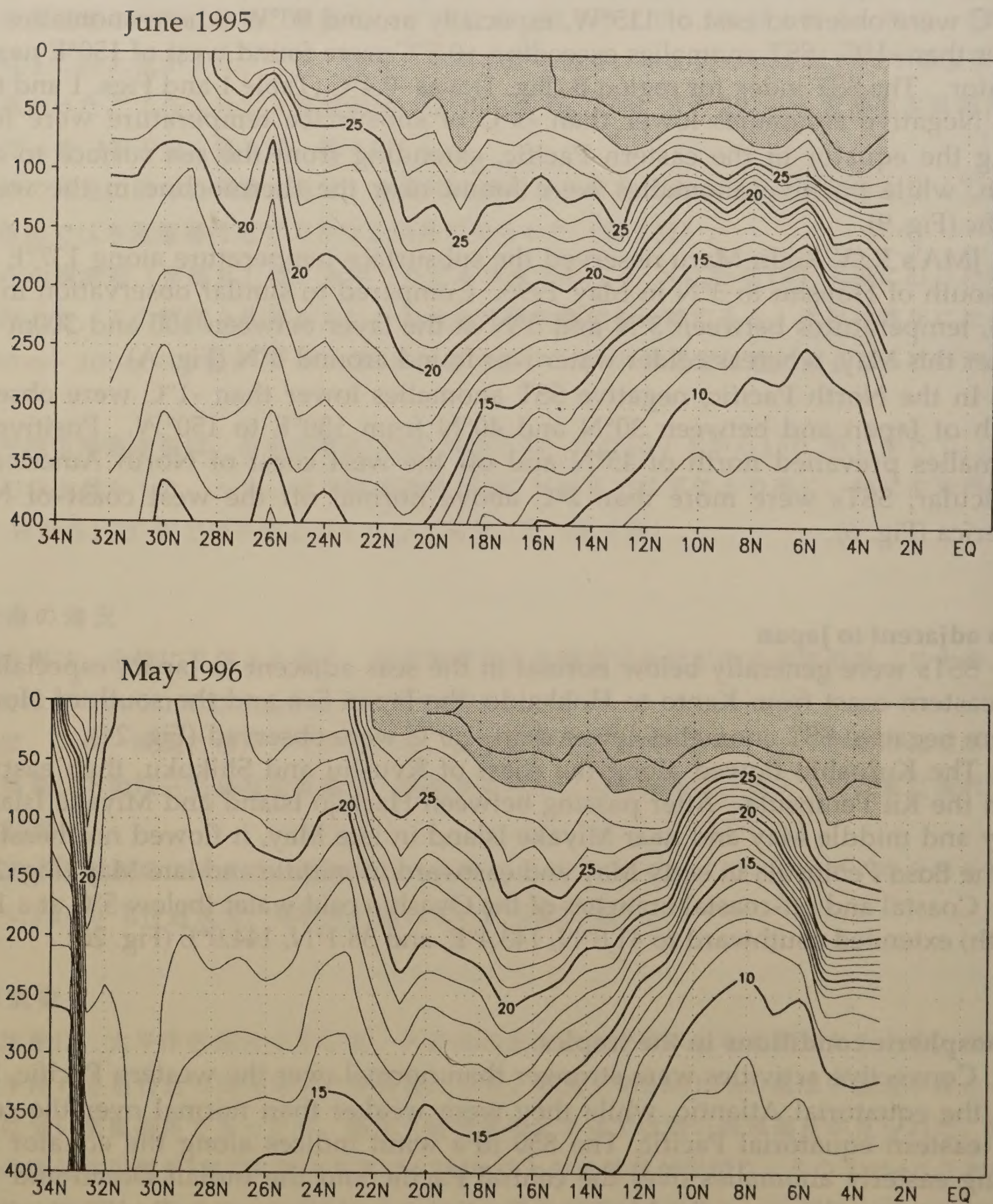
Coastal and off-coastal branches of the Oyashio cold water (below 5°C at a 100 m depth) extended southward to 41.0°N, 143.4°E, and 38.1°N, 144.0°E (Fig. 26).

Atmospheric conditions in the tropics

Convective activities were stronger than normal over the western Pacific, ITCZ and the equatorial Atlantic, while they were weaker than normal over the central and eastern equatorial Pacific. The 850 hPa wind indices along the equator show strong easterly anomalies over the central Pacific and the Indian Ocean and weak westerly anomalies over the Maritime Continent and the eastern Pacific. A positive sea level pressure anomaly of +2hPa or more prevailed in the tropical eastern Pacific east of 150°W. The SOI decreased to +0.3. The active phase of the intra-seasonal oscillation moved eastward from the western Pacific and reached the western Indian Ocean at the end of May (Table 1, Figs. 3-5 and 12).

[Prepared by the Long-range Forecast Division, JMA]

Depth-Latitude Sections of Subsurface Temperature along 137°E



図－A　　啓風丸の観測による137°Eに沿う表層水温断面図（上：1995年6月、下：1996年5月）

Fig. A　　Depth-latitude sections of subsurface temperature along 137°E for June 1995 (top), and May 1996 (bottom) observed by JMA R/V Keifu Maru. The contour interval is 1°C. Values exceeding 28°C are shaded.

DATE	SEA SURFACE TEMPERATURE AND ANOMALY (°C)								SEA LEVEL ANOMALY (cm)					
	Region D 14N-Eq. 130E-150E		Region A 4N-4S 160E-150W		Region B 4N-4S 150W-90W		Region C Eq.-10S 90W-80W		Yap 10N,138E	Rabaul 4S,152E	Majuro 7N,171E	Tarawa 1N,173E	Christ-mas 2N,157W	Santa Cruz 1S, 90W
JUN 95	29.6	+0.3	29.0	+0.5	26.0	-0.1	22.2	-0.5	-0.8	5.5	-0.6	2.2	-0.4	-2.4
JUL 95	29.5	+0.3	28.7	+0.2	25.3	+0.1	21.7	+0.1	5.3	10.7	1.0	-0.2	-5.6	-0.3
AUG 95	29.8	+0.7	28.4	0.0	24.3	-0.3	20.5	-0.1	3.8	15.1	6.7	-3.3	-8.9	-2.5
SEP 95	29.7	+0.5	28.1	-0.2	24.0	-0.6	20.7	+0.4	8.9	16.7	7.6	-2.7	-14.3	-2.7
OCT 95	29.8	+0.5	28.0	-0.4	23.9	-0.7	20.4	-0.3	13.0	15.5	4.6	1.1	-6.1	-4.9
NOV 95	29.7	+0.5	27.9	-0.5	23.9	-0.7	21.5	0.0	16.0	14.0	10.8	-1.5	-9.5	-3.2
DEC 95	29.5	+0.6	28.0	-0.2	24.2	-0.7	21.9	-0.7	13.5	17.2	3.5	1.0	-7.3	-6.2
JAN 96	29.0	+0.5	27.9	-0.1	25.0	-0.4	24.1	-0.2	10.3	14.7	8.2	5.8	-3.7	-4.5
FEB 96	28.6	+0.3	27.6	-0.4	25.7	-0.5	26.0	+0.3	10.9	14.6	6.2	4.8	-3.6	5.0
MAR 96	28.8	+0.4	27.8	-0.3	26.7	-0.2	25.9	0.0	9.3	12.8	-3.2	6.4	-0.7	-0.1
APR 96	29.3	+0.5	28.1	-0.1	26.7	-0.4	24.1	-1.0	-3.2	14.1	5.4	2.5	-4.2	-5.5
MAY 96	29.6	+0.5	28.5	0.0	26.2	-0.4	22.9	-1.0						

第1表（a）　エルニーニョ監視指数

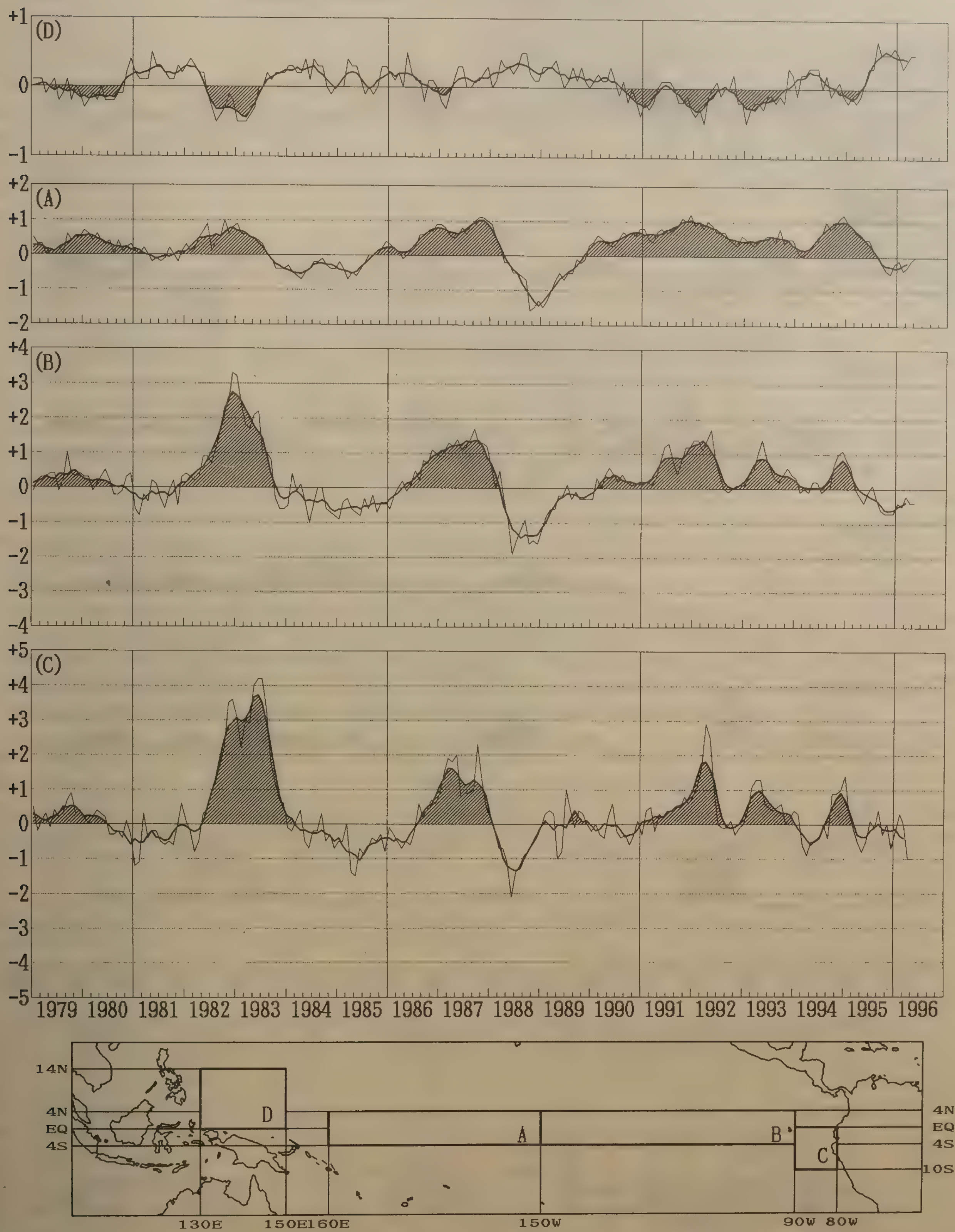
Table 1 (a)　El Niño monitoring indices. Data sources are the El Niño Monitoring Center of JMA for the sea surface temperature and anomaly and SOC for ISLP-Pac, Department of Oceanography, University of Hawaii for the sea level anomaly.

DATE	SOI	SEA LEVEL PRESSURE ANOMALIES		HIGH CLOUD AMOUNT INDEX			EQUATORIAL ZONAL WIND INDEX				
		TAHITI 17°33'S, 149°37'W	DARWIN 12°24'S, 130°52'E	HCLD-PH 20N-10N 110E-140E	HCLD-MC 5N-5S 110E-135E	HCLD-DL 5N-5S 170E-170W	U200-IN 5N-5S 80E-100E	U200-CP 5N-5S 180 -125W	U850-WP 5N-5S 160E-175W	U850-CP 5N-5S 170W-135W	U850-EP 5N-5S 130W-100W
JUN 95	-0.1	0.3	0.4	-1.8	-0.4	-0.7	0.2	0.2	-0.9	-0.4	0.6
JUL 95	0.4	0.4	-0.4	1.5	-0.1	-0.7	-1.1	0.0	-0.8	-0.8	0.3
AUG 95	0.0	0.4	0.3	0.3	0.0	-1.1	0.0	1.4	-1.3	-1.5	-0.9
SEP 95	0.2	0.4	0.0	1.4	0.7	-1.0	-2.0	1.5	-0.9	-1.0	-0.1
OCT 95	-0.3	-0.7	-0.5	0.1	0.2	-1.0	-0.7	0.6	-1.2	-0.7	0.1
NOV 95	0.1	0.1	-0.1	0.1	1.4	-1.2	-2.1	0.8	-1.1	-0.8	-0.8
DEC 95	-0.5	-0.9	0.0	4.0	1.2	-1.2	-0.3	-0.1	-1.0	-0.3	0.3
JAN 96	0.8	1.0	-0.7	1.6	1.5	-1.3	-1.0	0.8	-1.2	-1.2	0.0
FEB 96	0.1	-0.3	-0.5	1.7	1.4	-1.1	-0.7	0.4	-1.1	-1.4	-0.6
MAR 96	0.7	1.0	-0.3	0.3	-0.4	-1.2	-0.2	0.0	-1.1	-1.5	-0.3
APR 96	0.8	0.5	-0.5	2.4	0.6	-0.7	-1.3	1.1	-1.6	-1.1	-0.5
MAY 96	0.3	1.2	1.2	0.6	0.0	-0.6	-1.3	0.8	-1.0	-1.3	0.3

第 1 表（b）　エルニーニョ監視指数（続き）

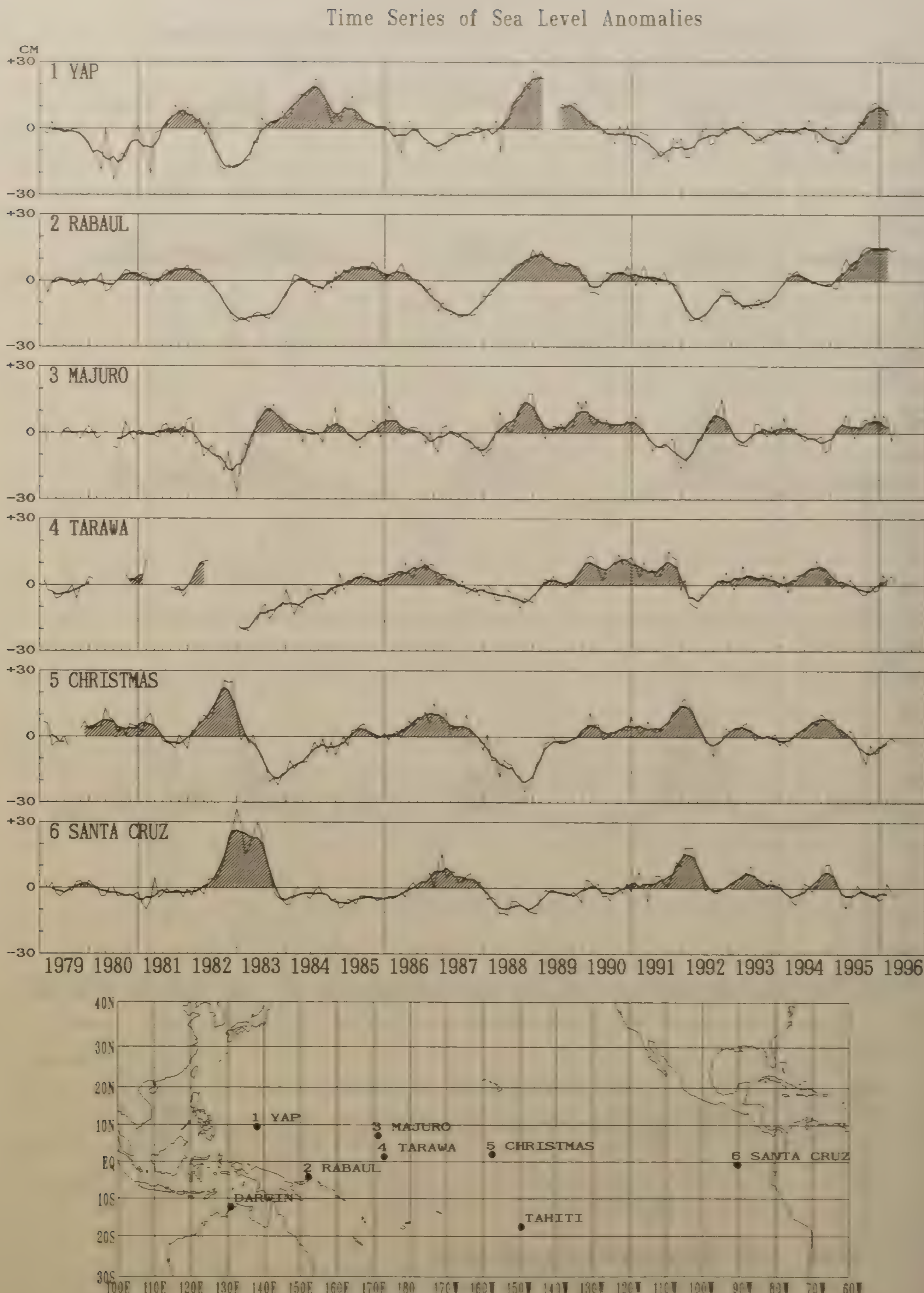
Table 1 (b)　El Niño monitoring indices (continued).
Data sources are the Long-range Forecast Division of JMA for the atmospheric conditions.

Time Series of Equatorial Pacific SST Anomalies



第1図　太平洋赤道域の海面水温偏差時系列図

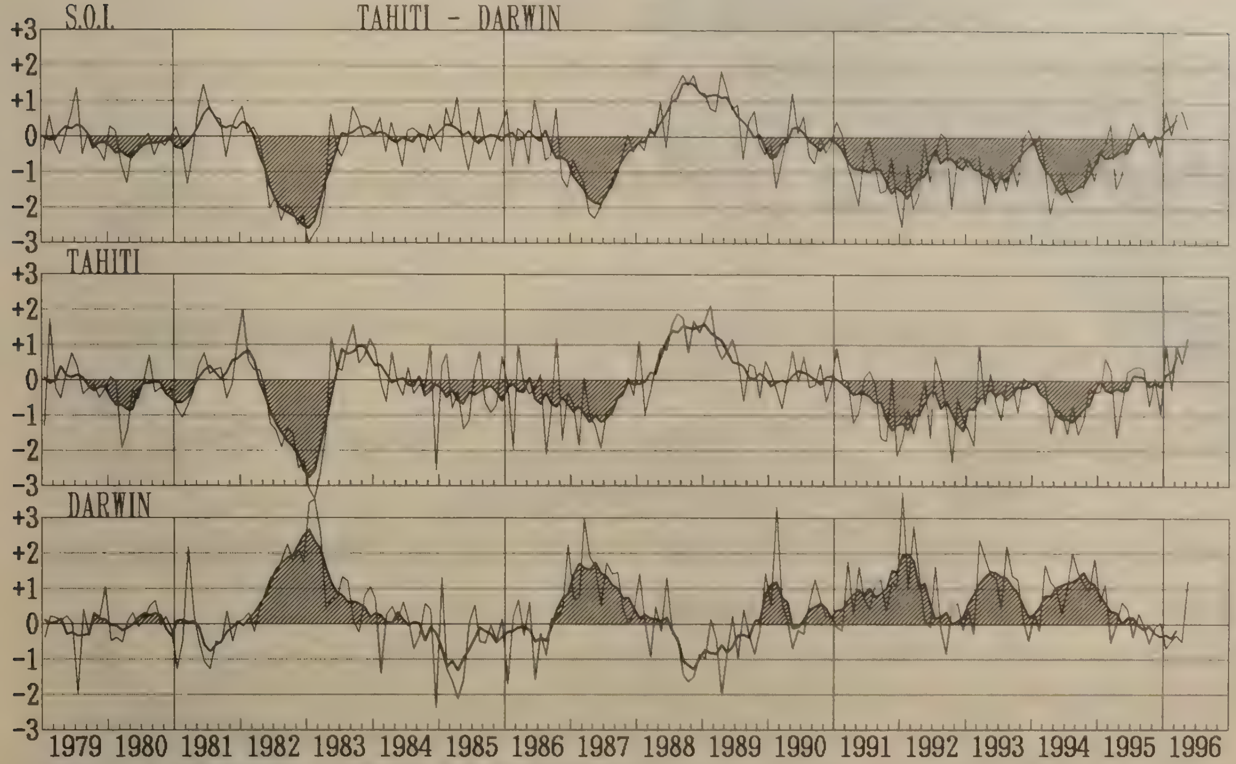
Fig.1 Time series of monthly mean SST anomalies (°C) in the equatorial Pacific Ocean for the areas indicated at the bottom.
Thin lines show the monthly means and thick lines their 5-month running means. Positive anomalies (A, B, C) and negative anomalies (D) are shaded. Anomalies are computed from the JMA climatology (1961-1990).



第2図　太平洋月平均海面水位偏差時系列図

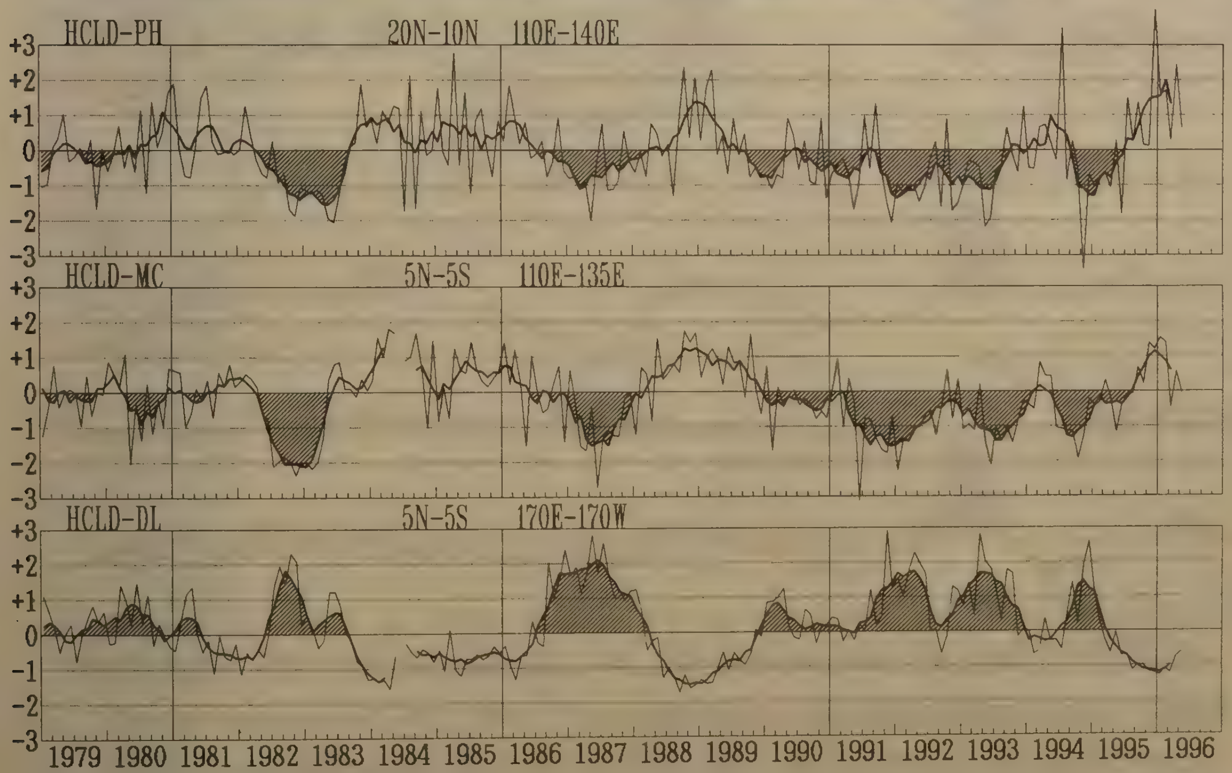
Fig.2 Time series of sea level anomalies computed from 1976-1990 monthly mean values obtained from the stations indicated at the bottom. Thin lines show the monthly mean and thick lines their 5-month running means. Positive anomalies are shaded.

Time Series of SOI and High-Cloud Amount Index



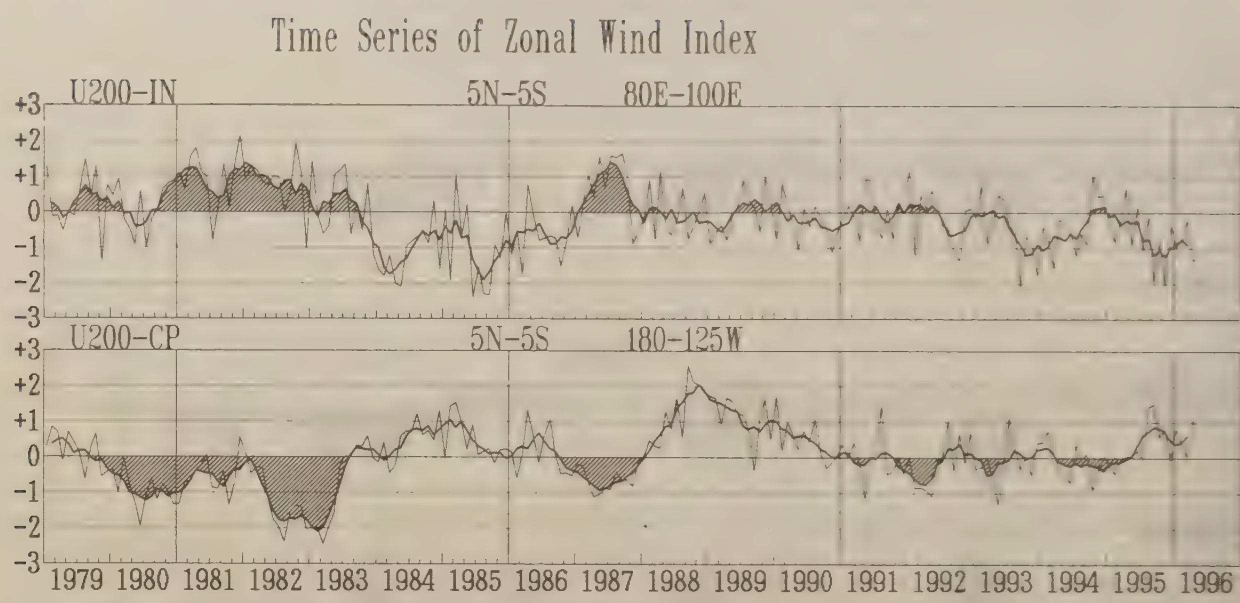
第3図　南方振動指数及び海面気圧偏差時系列図

Fig.3 Time series of the Southern Oscillation Index (top) and monthly mean sea level pressure standardized anomalies at Tahiti (middle) and Darwin (bottom). Thin lines show the monthly mean and thick lines their 5-month running means. Negative anomalies (top, middle) and posotive anomalies (bottom) are shaded. Normals and standard deviations are computed from 1961-1990 base periods. Data sources are the Long-range Forecast Division of JMA.



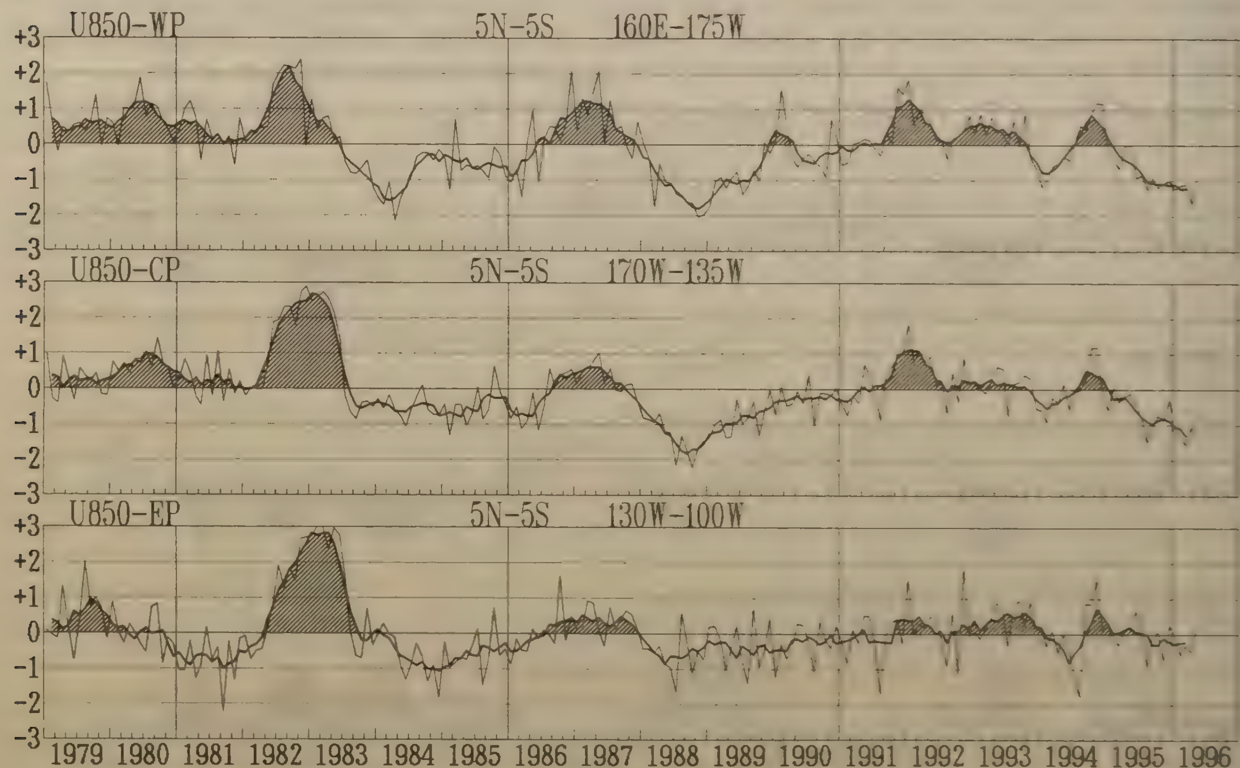
第4図　月平均上層雲量指数時系列図

Fig.4 Time series of high-cloud amount index averaged over the area 20°N-10°N, 110°E-140°E (top), 5°N-5°S, 110°E-135°E (middle), and 5°N-5°S, 170°E-170°W (bottom). Thin lines show the monthly mean and thick lines their 5-month running means. Negative anomalies (top, middle) and positive anomalies (bottom) are shaded. Normals and standard deviations are computed from 1978-1990 base periods. Data sources are the Long-range Forecast Division of JMA.



第5図-1　赤道域東西風指数(200ｈＰａ)時系列図

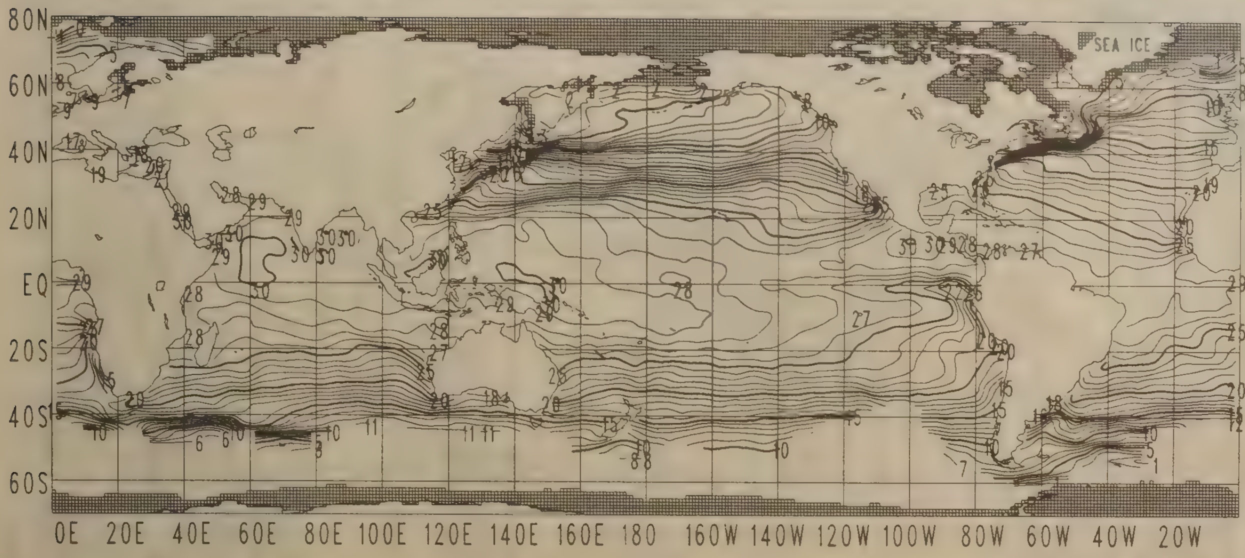
Fig.5-1 Time series of 200hPa zonal wind index averaged over the areas of 5°N-5°S, 80°E-100°E (top), and 5°N-5°S, 180°-125°W (bottom).
Thin lines show the monthly mean and thick lines their 5-month running means.
Positive anomalies (top) and negative anomalies (bottom) are shaded.
Normals and standard deviations are computed from 1979-1990 base periods.
Data sources are the Long-range Forecast Division of JMA.

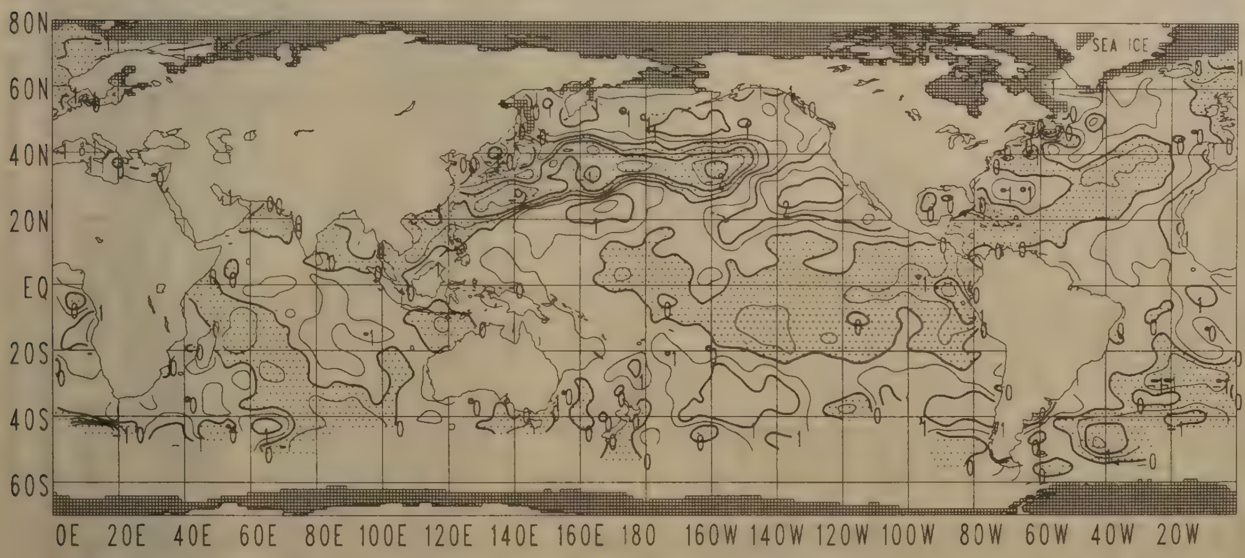


第5図-2　赤道域東西風指数(850ｈＰａ)時系列図

Fig.5-2 Time series of 850hPa zonal wind index averaged over the areas of 5°N-5°S, 160°E-175°W (top), 5°N-5°S, 170°W-135°W (middle), and 5°N-5°S, 130°W-100°W (bottom). Thin lines show the monthly mean and thick lines their 5-month running means. Positive anomalies are shaded.
Normals and standard deviations are computed from 1979-1990 base periods.
Data sources are the Long-range Forecast Division of JMA.

SST & Anomalies in the Global Ocean

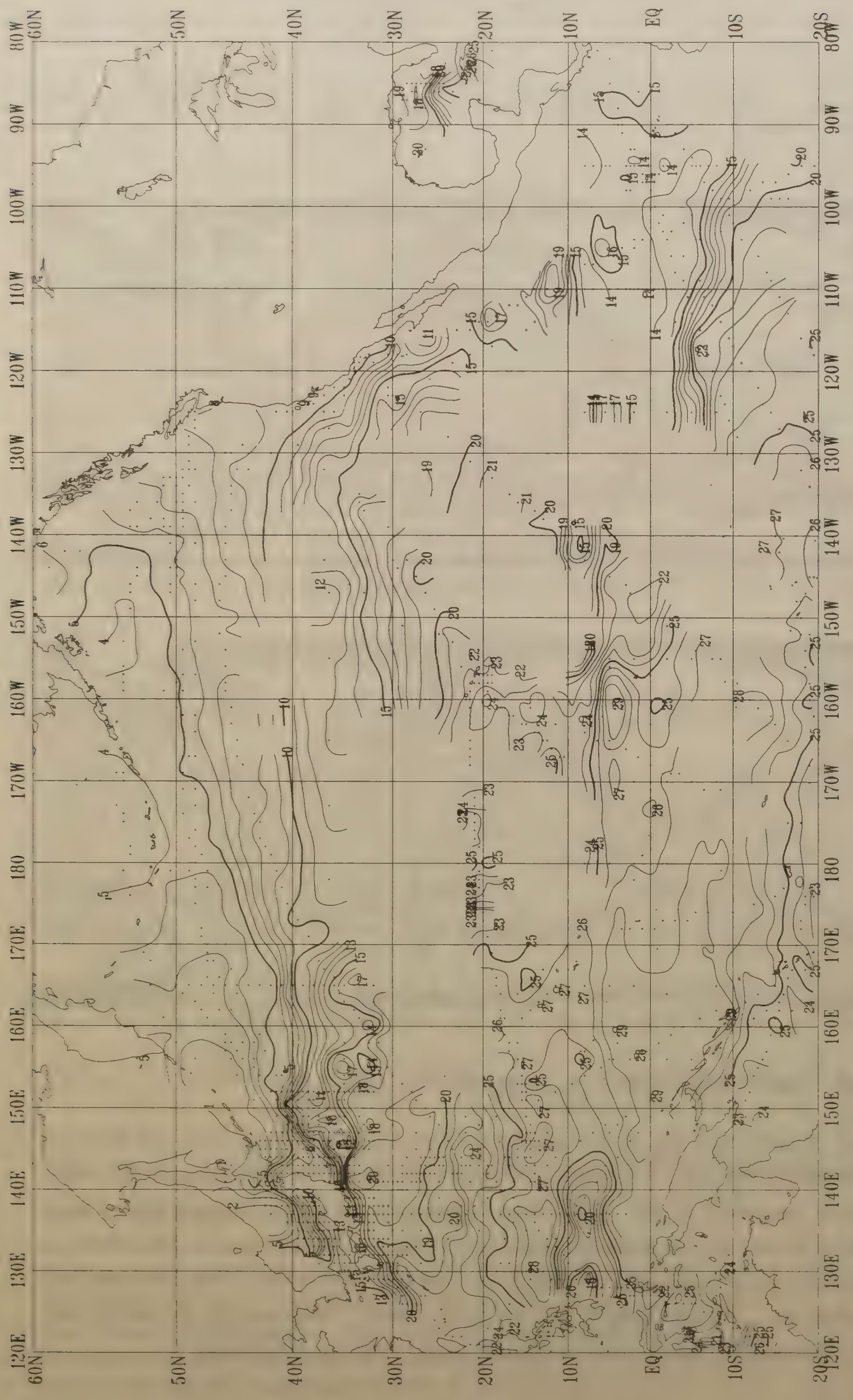




第6図　全球月平均海面水温図（上）及び偏差図（下）（1996年 5月）

Fig.6 Monthly mean sea surface temperature over the global ocean (top) and anomalies (bottom) for MAY 1996. Anomalies are computed from the JMA climatology (1961-1990) (Marine Department of JMA, 1991, Climatic charts of sea surface temperatures of the western North Pacific and the global ocean). Contour interval is 1°C (top) and additional anomaly contours of ±0.5°C are shown as thin lines. Negative anomalies are spotted. Maximum coverage of sea ice is shaded. Data sources for sea ice are U.S. National Ice Center (polar regions) and JMA (the Sea of Okhotsk).

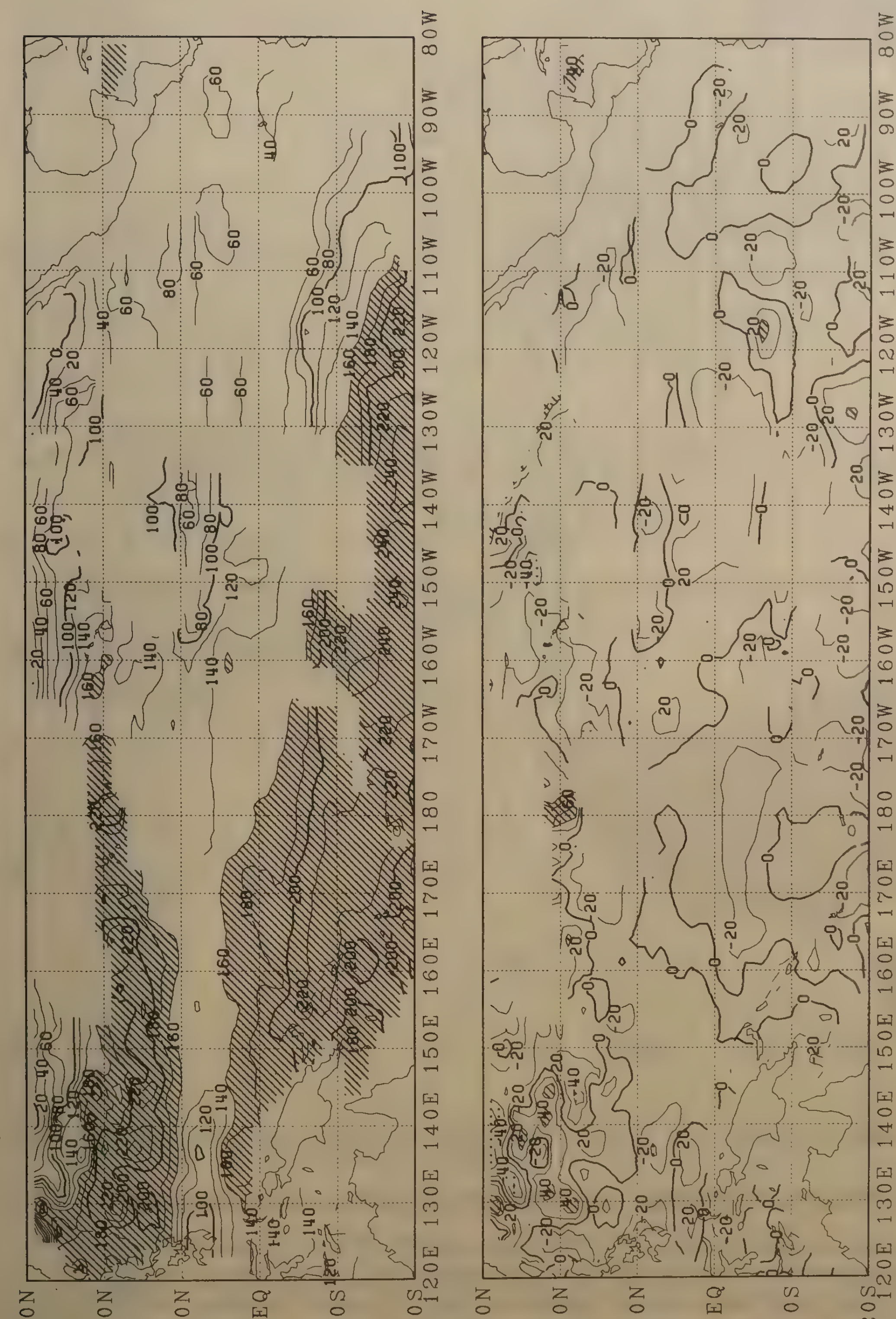
100m Temperature in the Pacific Ocean



第7図　太平洋表層水温(深さ100m)図 (1996年 5月)

Fig.7 Subsurface (100m) temperatures in the Pacific Ocean for MAY 1996. Contour interval is 1°C. Observation points are denoted by dots.

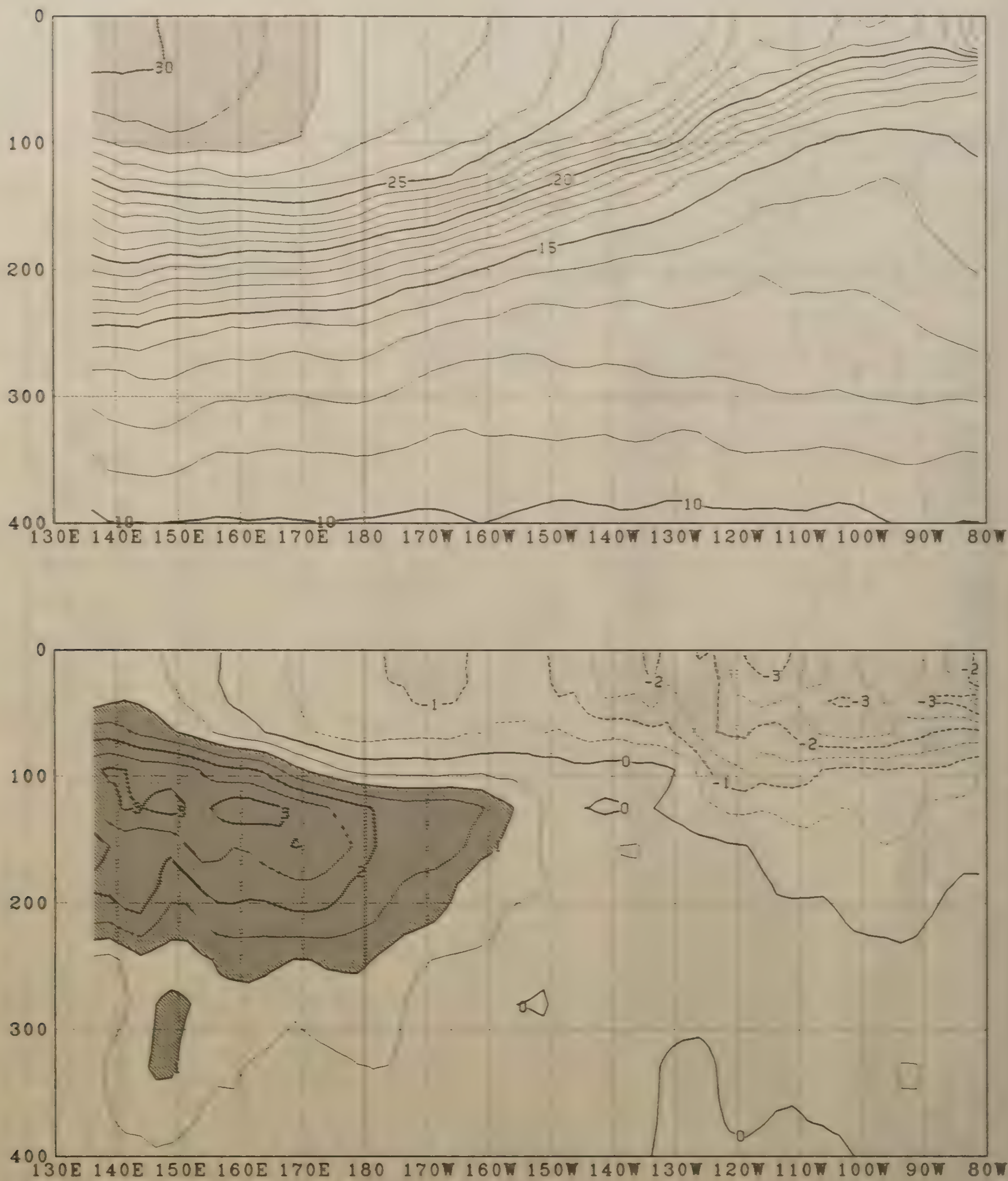
Depth of 20C & Anomalies in the Pacific Ocean



第8図　太平洋表層水温（20℃深度）図（上）及び偏差図（下）（1996年 5月）

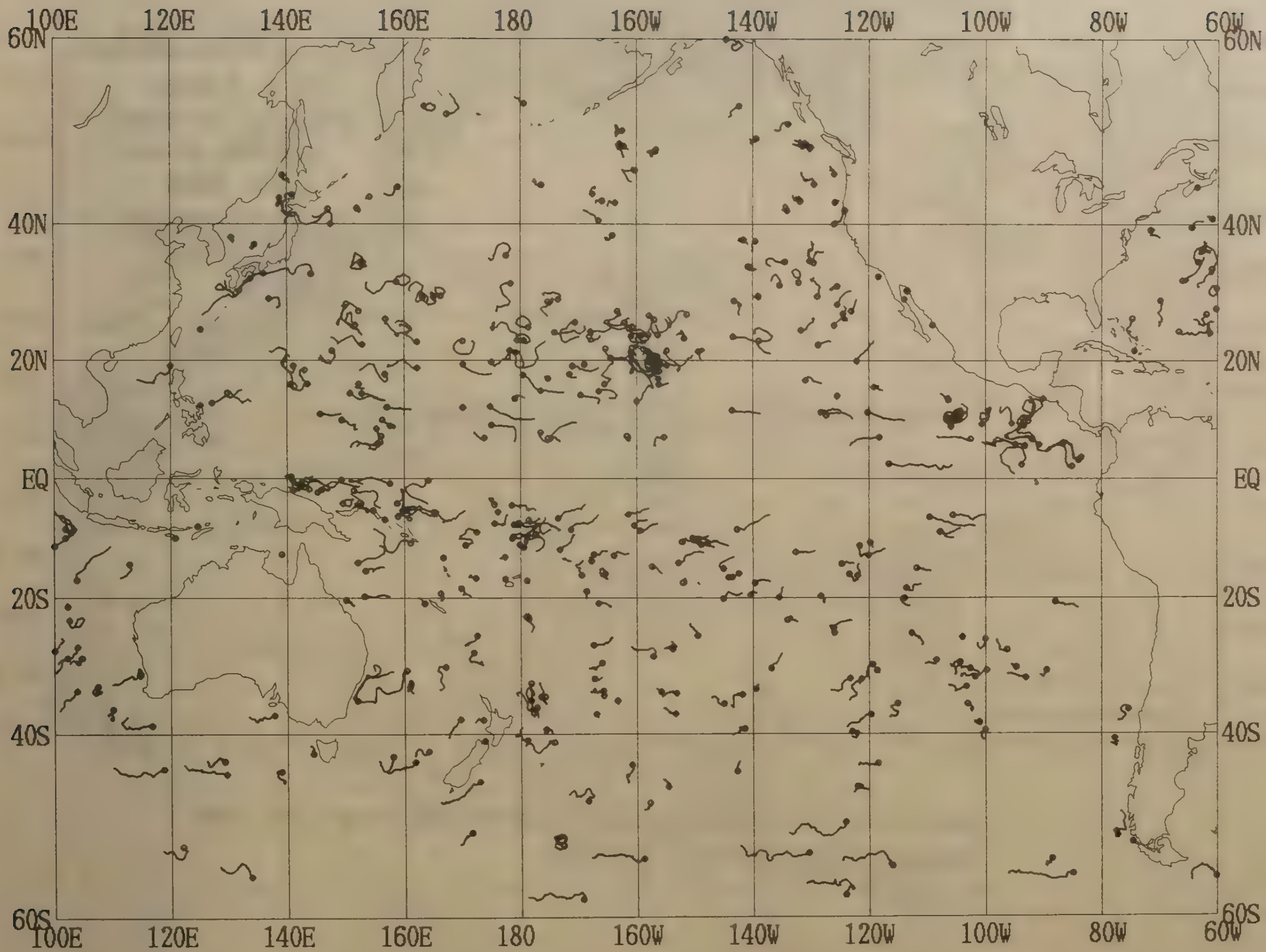
Fig.8 Depth of the 20°C isotherm in the Pacific Ocean (top) and anomalies (bottom) for MAY 1996. Anomalies are computed from the climatology (Levitus, 1982, Climatological Atlas of the World Ocean, NOAA). Contour interval is 20m. Values greater than 160m in top panel are shaded. In bottom panel values greater than +40m are shaded and values less than -40m are spotted.

Depth-Longitude Sections of Equatorial Temperature & Anomalies



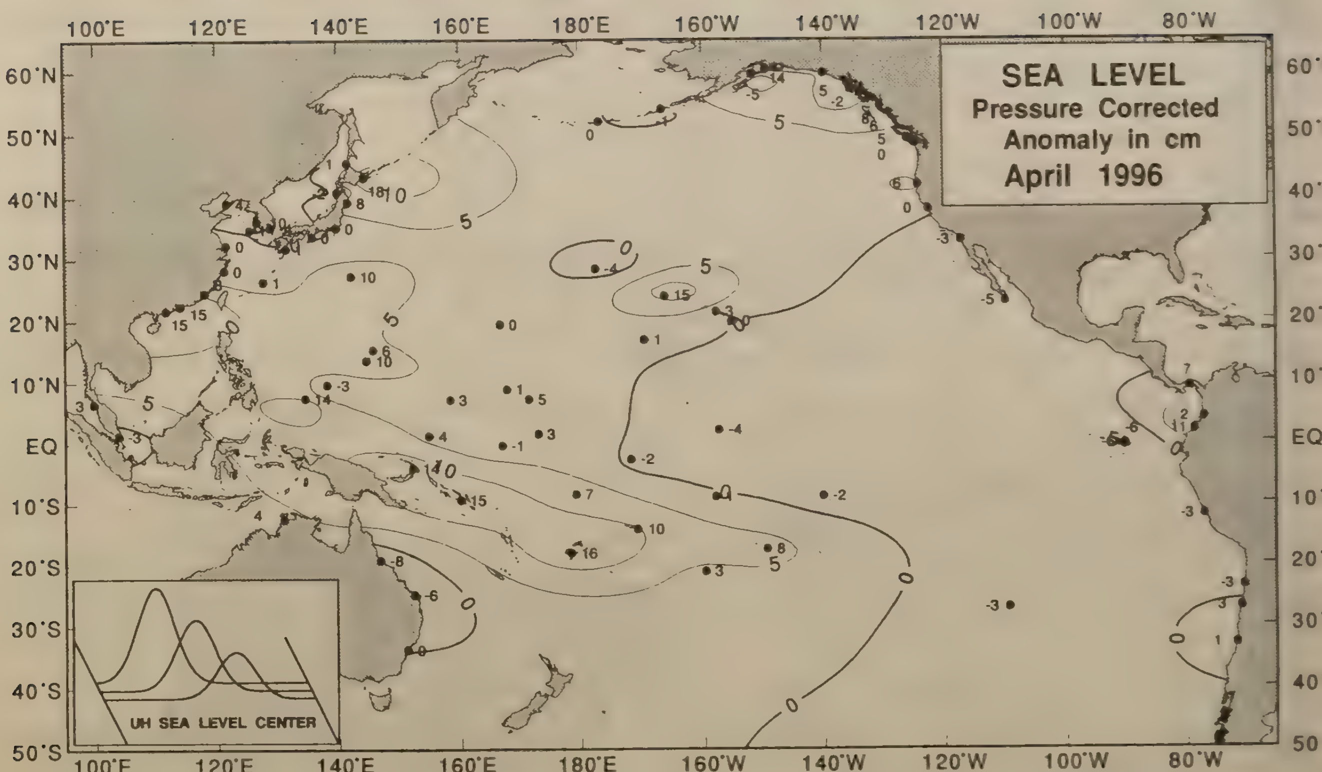
第9図　太平洋赤道に沿う表層水温（上）及び偏差（下）の深度－経度断面図（1996年 5月）

Fig.9 Depth-longitude sections of temperature (top) and anomalies (bottom) along the equator in the Pacific Ocean for MAY 1996. Data are derived from the Ocean Data Assimilation System of JMA. Contour interval is 1°C (top) and 0.5°C (bottom). Values greater than 28°C in top panel are shaded. In bottom panel values greater than 1°C are shaded and values less than -1°C are spotted. Anomalies are computed from 1987-1995 base period means.



第10図　太平洋ブイ流跡図(1996年 5月)

Fig.10 Movements of drifting buoys in the Pacific Ocean during MAY 1996. Each track is for one buoy. Small circles represent last positions for the month.

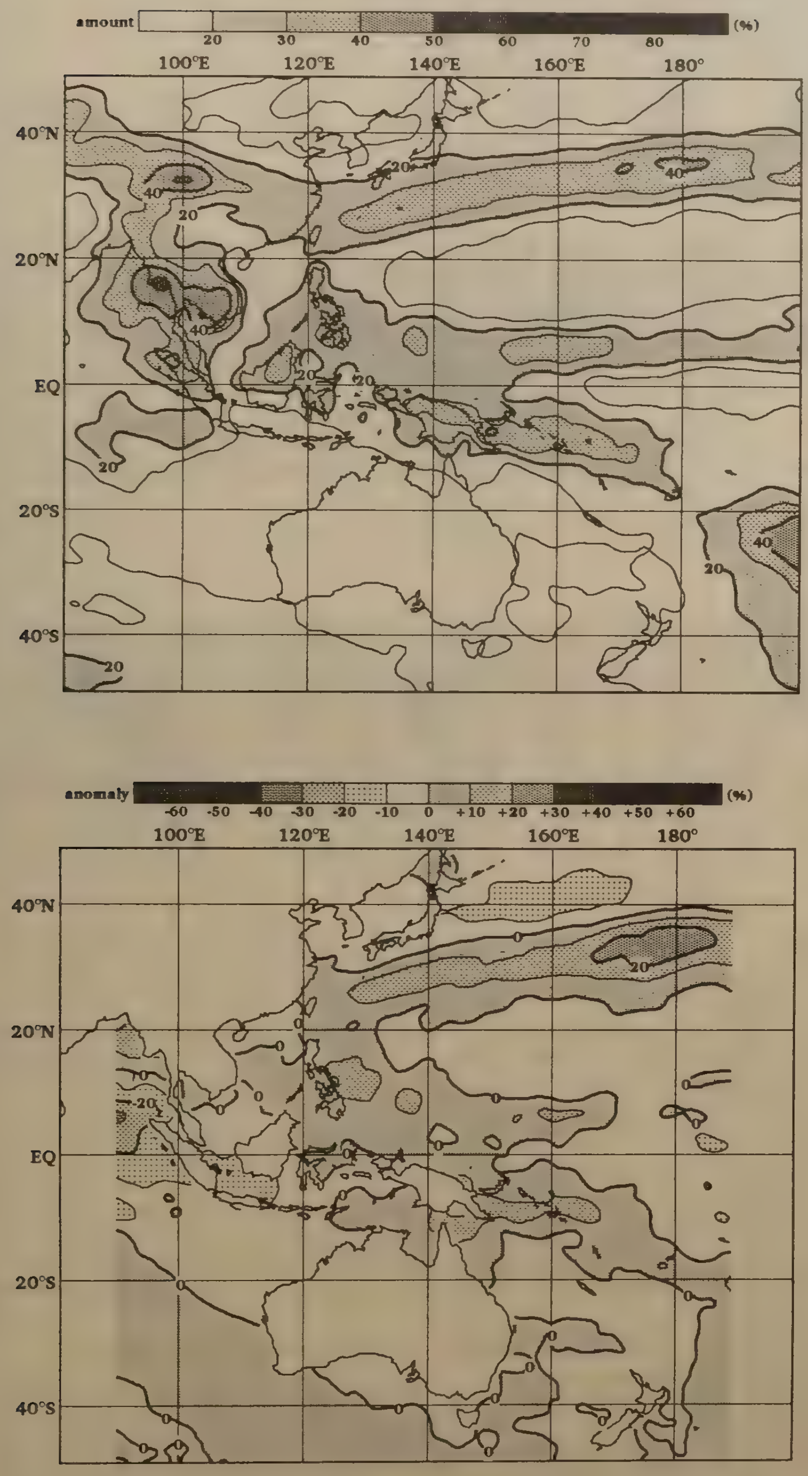


Anomaly of sea level from the 1975 to 1986 mean sea level adjusted for atmospheric pressure.

第11図　太平洋海面水位偏差図（ 1996年 4月 ）

Fig.11　Monthly sea level anomalies for APR 1996 obtained from mean sea level (1975-1986) adjusted for atmospheric pressure.
This figure is prepared by the SOC of ISLP-PAC, Dept. of Oceanography, Univ. of Hawaii.

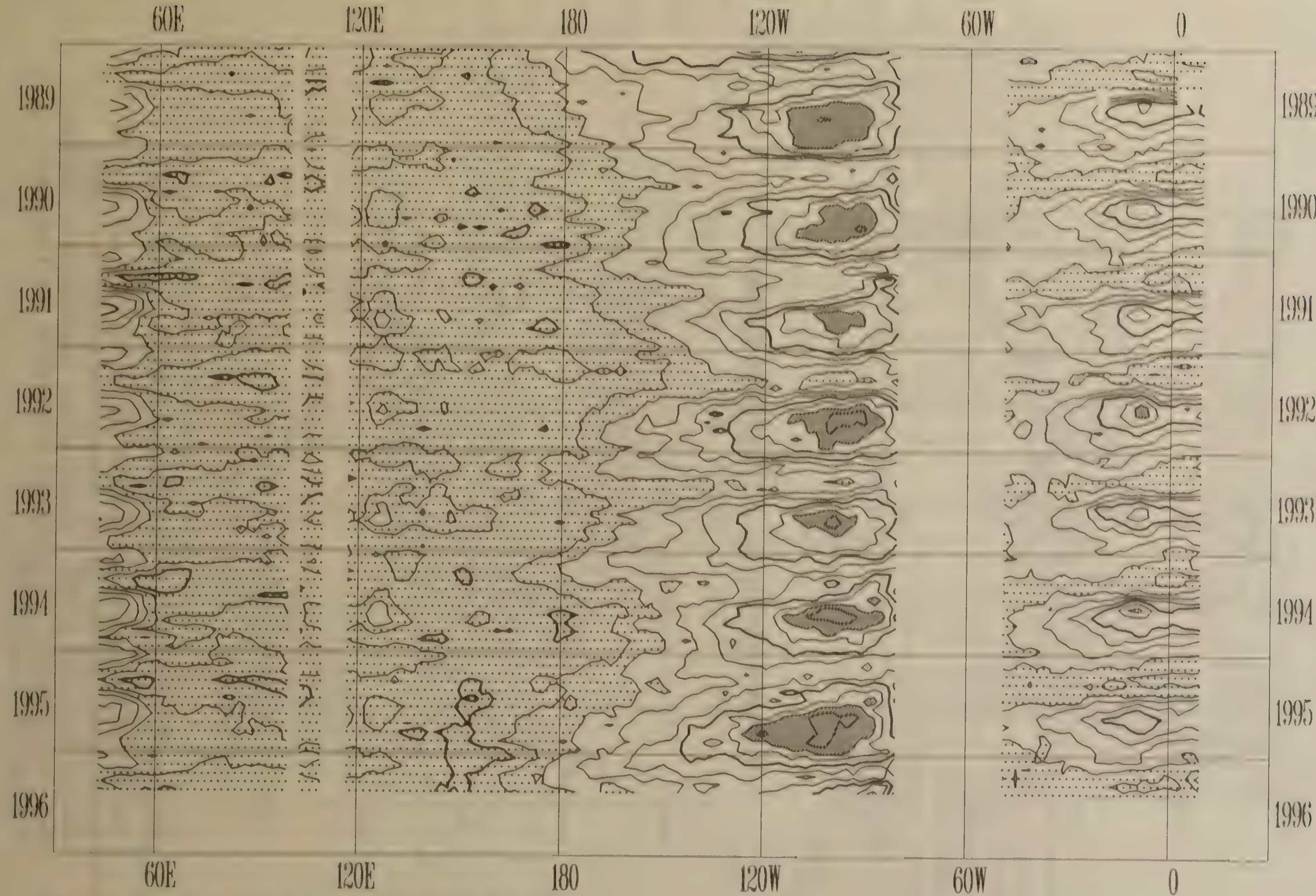
High-Cloud Amount & Anomalies



第12図　西太平洋月平均上層雲量分布図及び偏差図（1996年 5月）

Fig.12 Monthly mean of the high-cloud amount (%, top) and its anomalies (%, bottom) in the western Pacific for MAY 1996. Contour interval is 10%. Anomalies are computed from 1978-1990 base period means. Figures are prepared by the Long-range Forecast Division of JMA.

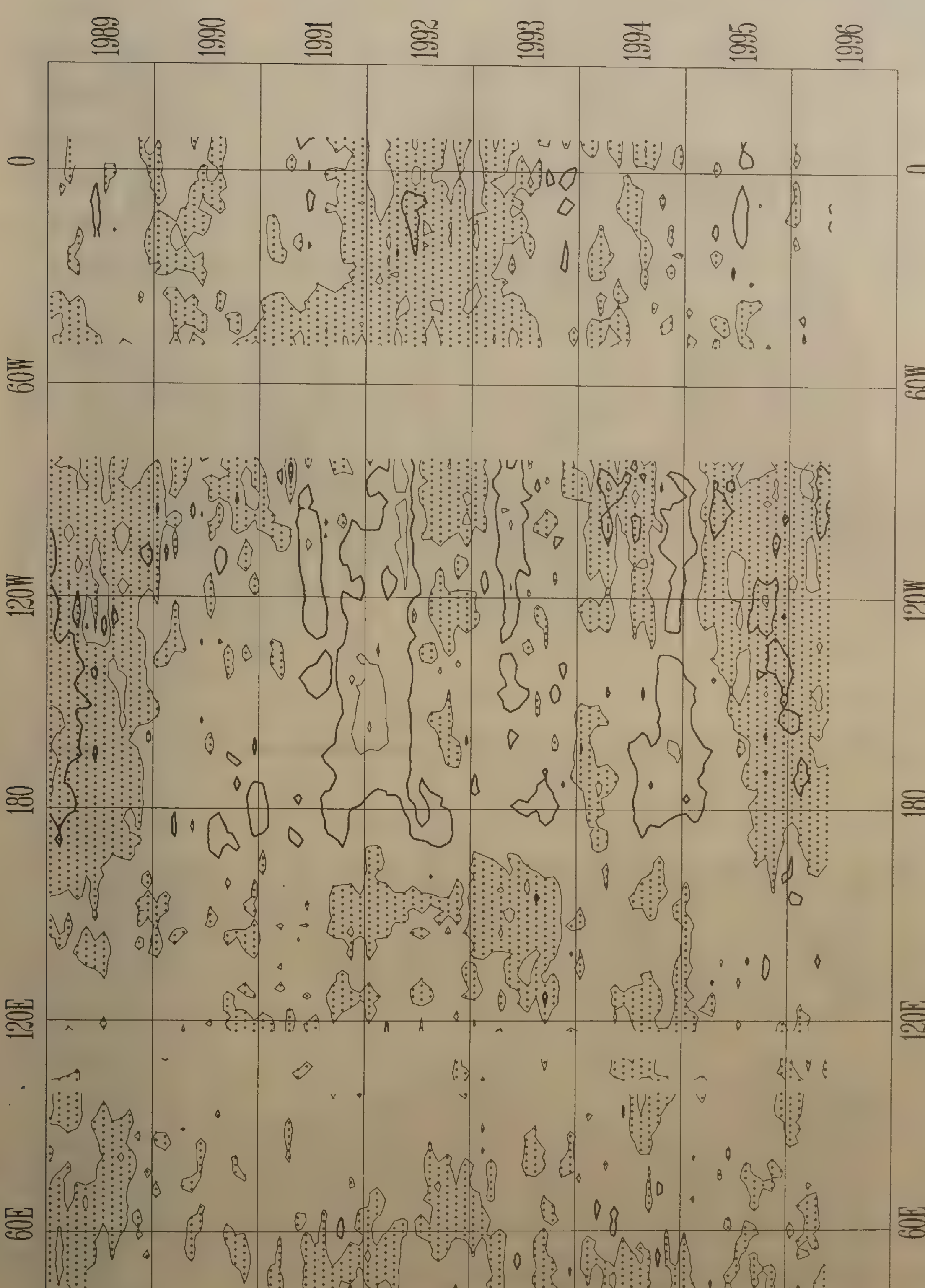
Time-Longitude Section of SST



第13図　赤道に沿う海面水温の時間－経度断面図

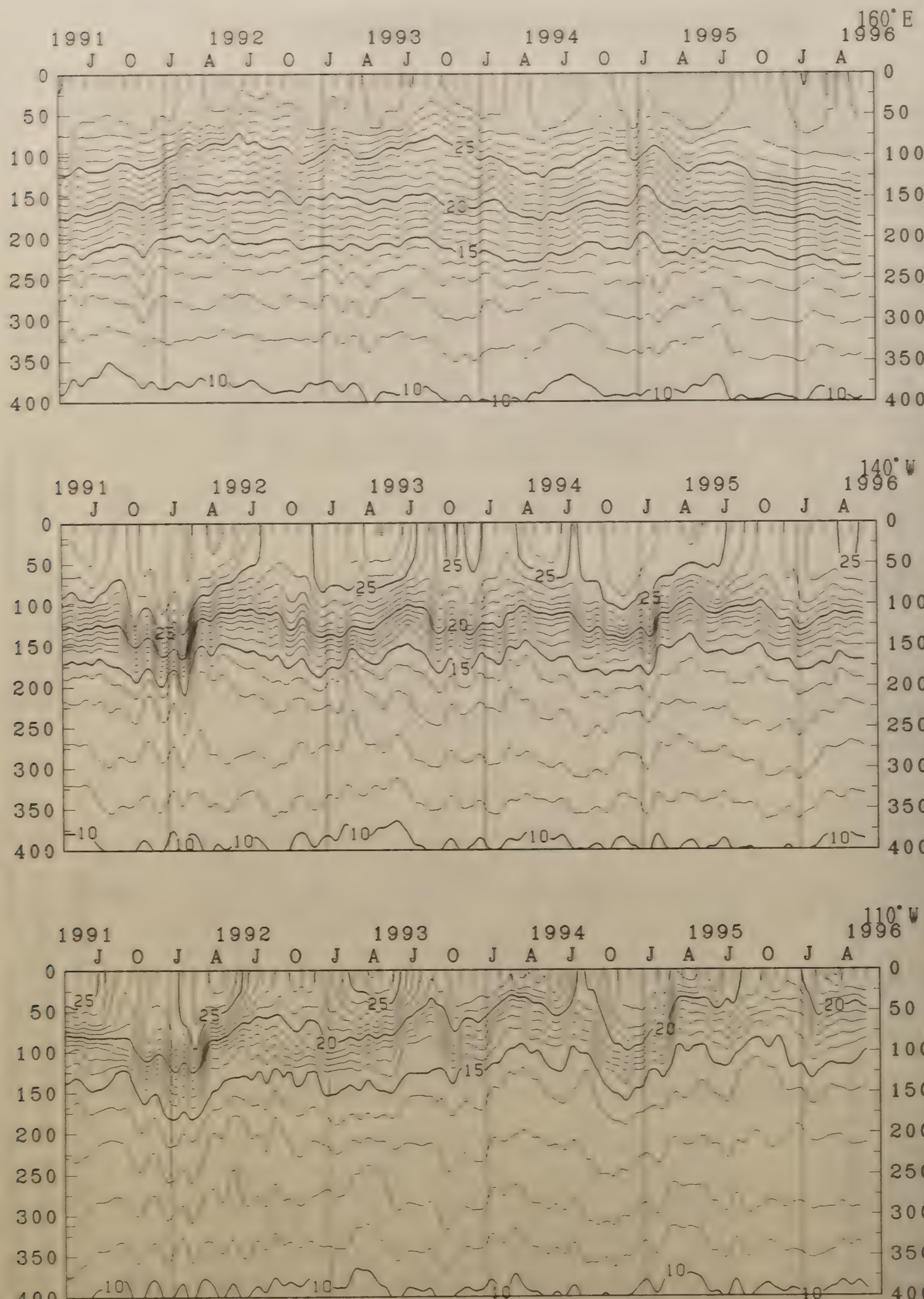
Fig.13 Time-longitude section of SSTs along the equator (2°N-2°S) in the global ocean.　Contour interval is 1°C, with thick contour lines at 25 and 30°C. SST values greater than 28°C are spotted and values less than 23°C are shaded.

Time-Longitude Section of SST Anomalies



第14図　赤道に沿う海面水温偏差の時間－経度断面図

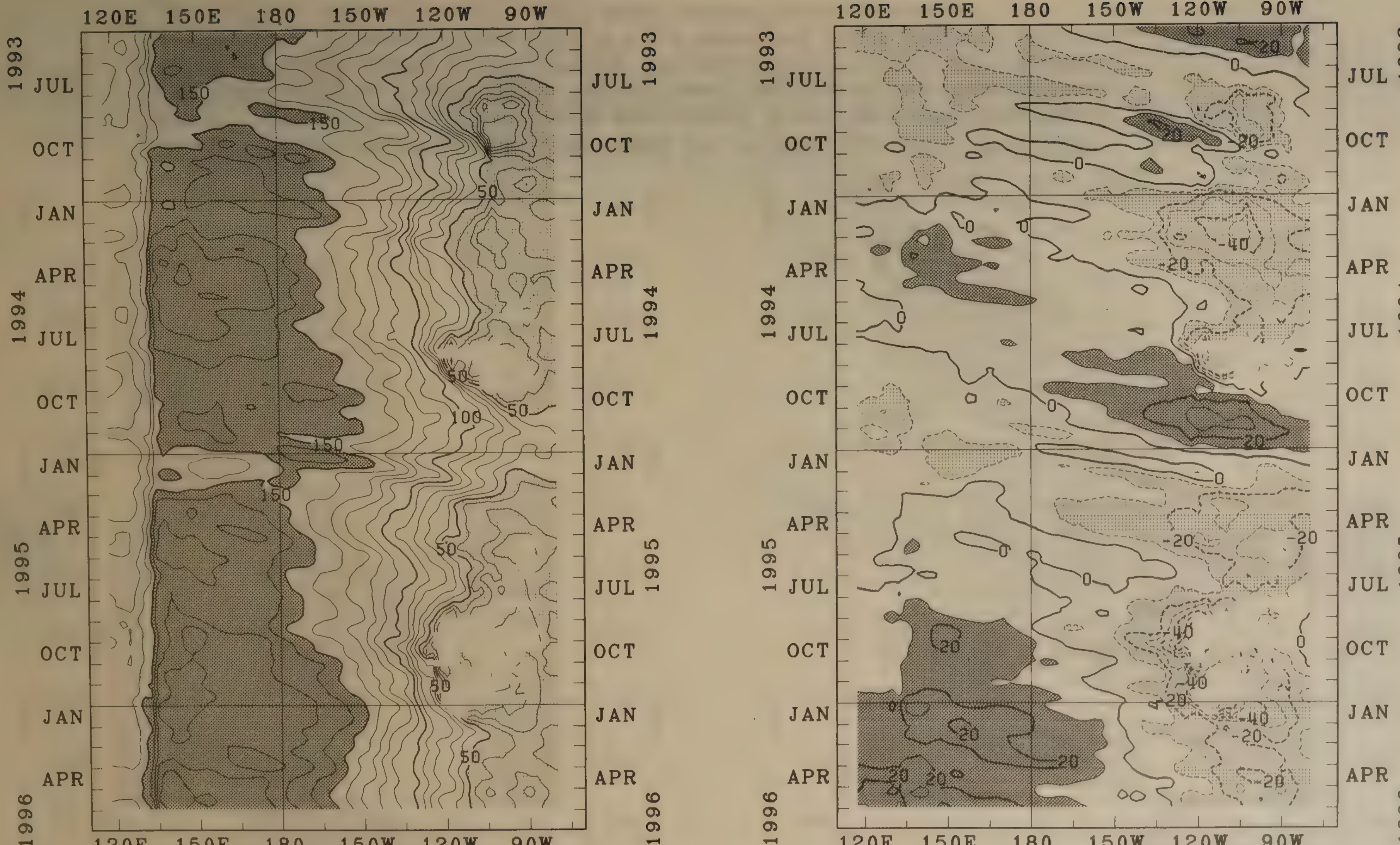
Fig.14 Time-longitude section of SST anomalies along the equator (2°N-2°S) computed from the JMA climatology (1961-1990). Contour interval is 1°C, with thick contour lines at +1°C and -1°C. Negative anomalies are spotted.



第15図　太平洋赤道域の表層水温の時間－深度断面図

（上：西部、中：中部、下：東部）

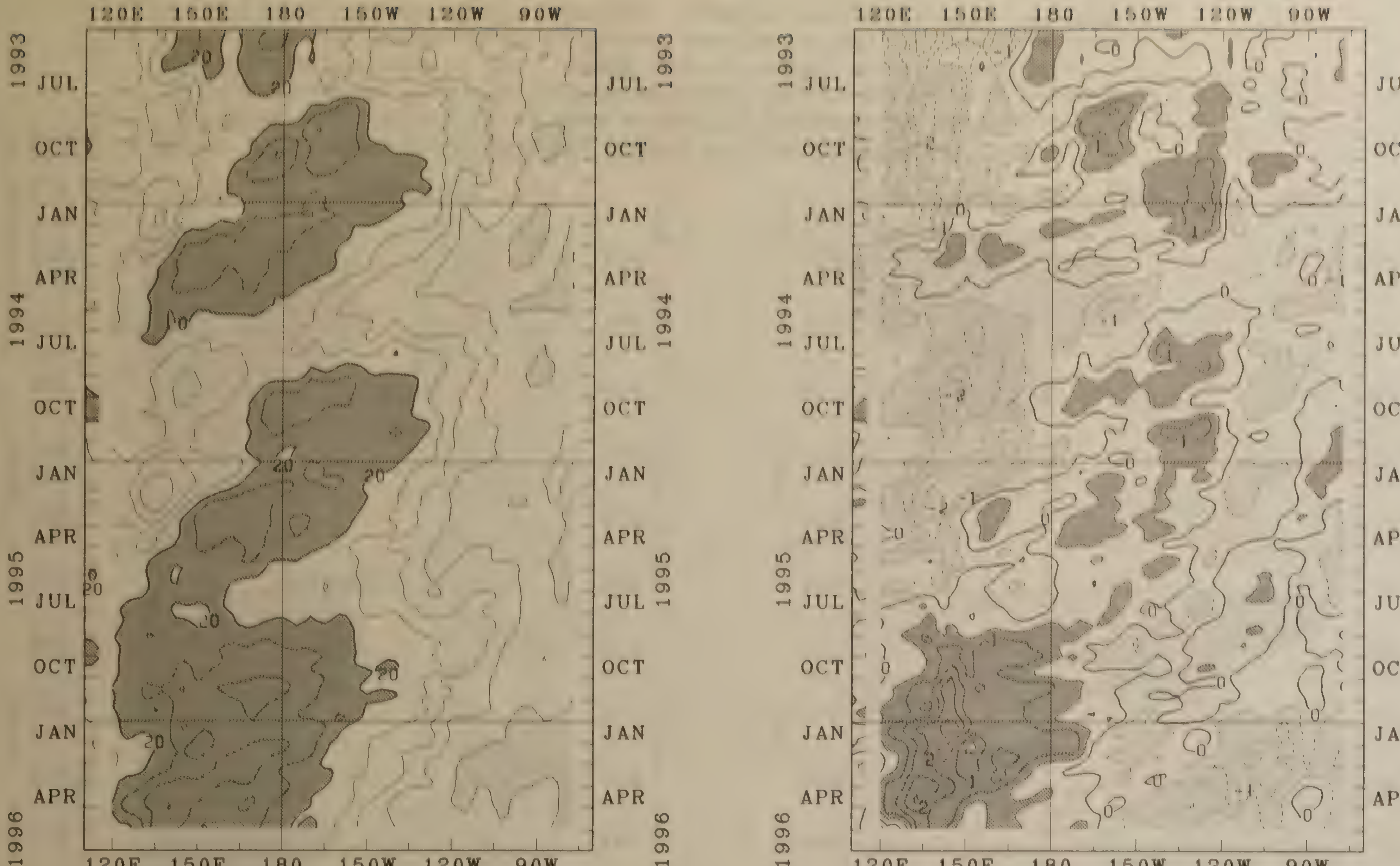
Fig.15 Time-depth sections of equatorial subsurface temperature for the western Pacific (top, 160°E), the central Pacific (middle, 140°W) and the eastern Pacific (bottom, 110°W). Data are derived from the Ocean Data Assimilation System of JMA. Contour interval is 1°C. Values greater than 28°C are shaded.



第16図　太平洋の赤道に沿う20℃深度（左）及び偏差（右）の時間－経度断面図

Fig.16 Time-longitude sections of depth of the 20°C isotherm along the equator (left) and anomalies (right) in the Pacific Ocean. Data are derived from the Ocean Data Assimilation System of JMA. Contour interval is 10m. Values in left panel greater than 150m are shaded and values less than 50m are spotted. Dashed contours in right panel indicate negative anomalies. Anomalies are computed from 1987-1995 base period means.

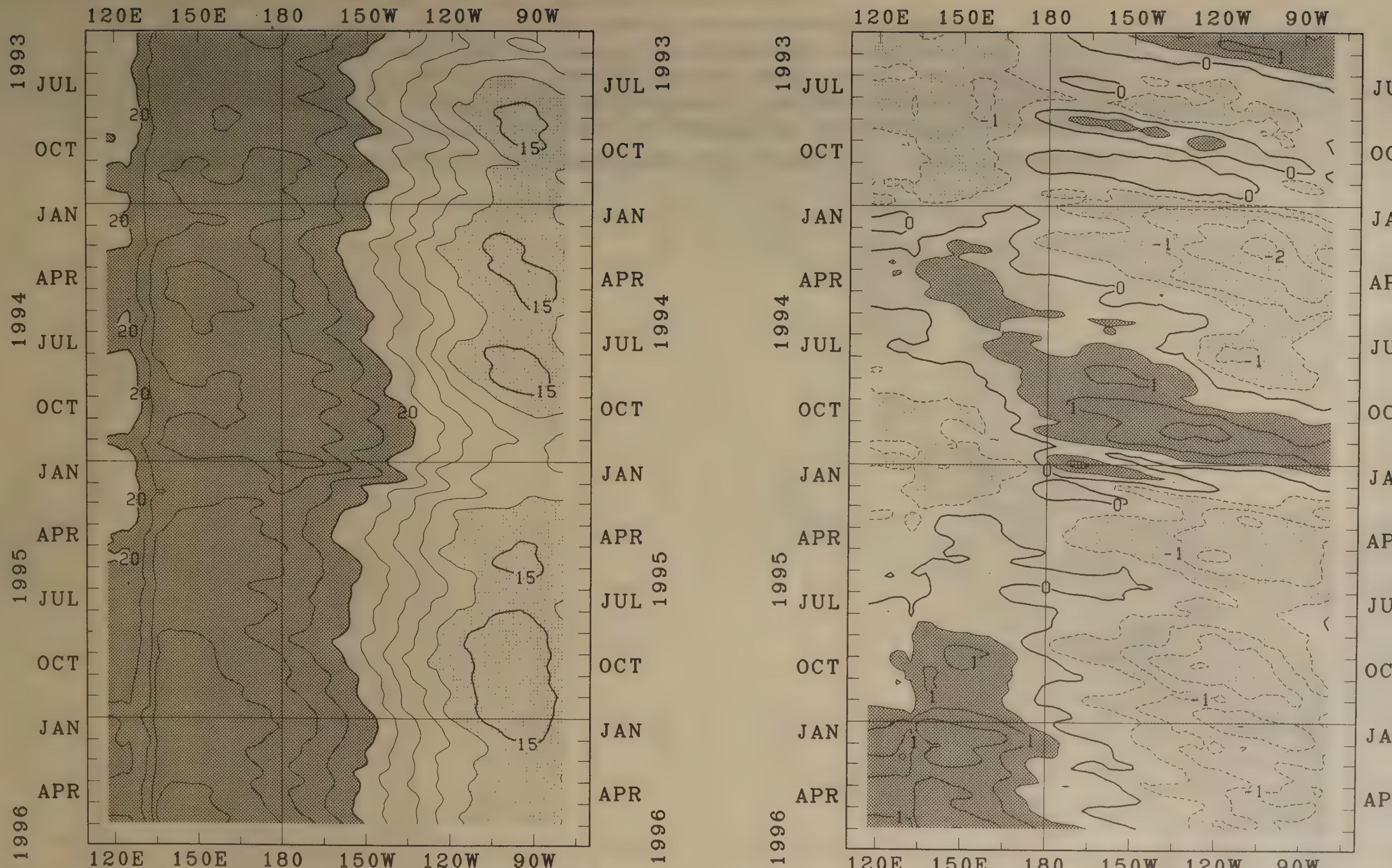
Time-Longitude Section of Ocean Heat Content & Anomalies (6N)



第17図　太平洋の北緯6度線に沿う海洋表層の貯熱量（左）及び偏差（右）の時間－経度断面図

Fig.17 Time-longitude sections of ocean heat content in the upper 260m along 6°N (left) and anomalies (right) in the Pacific Ocean. Data are derived from an Ocean Data Assimilation System of JMA. Contour interval is 1°C (left) and 0.5°C (right). Values in the left panel greater than 20°C are shaded and values less than 16°C are spotted. Dashed contours in right panel indicate negative anomalies. Anomalies are computed from 1987-1995 base period means.

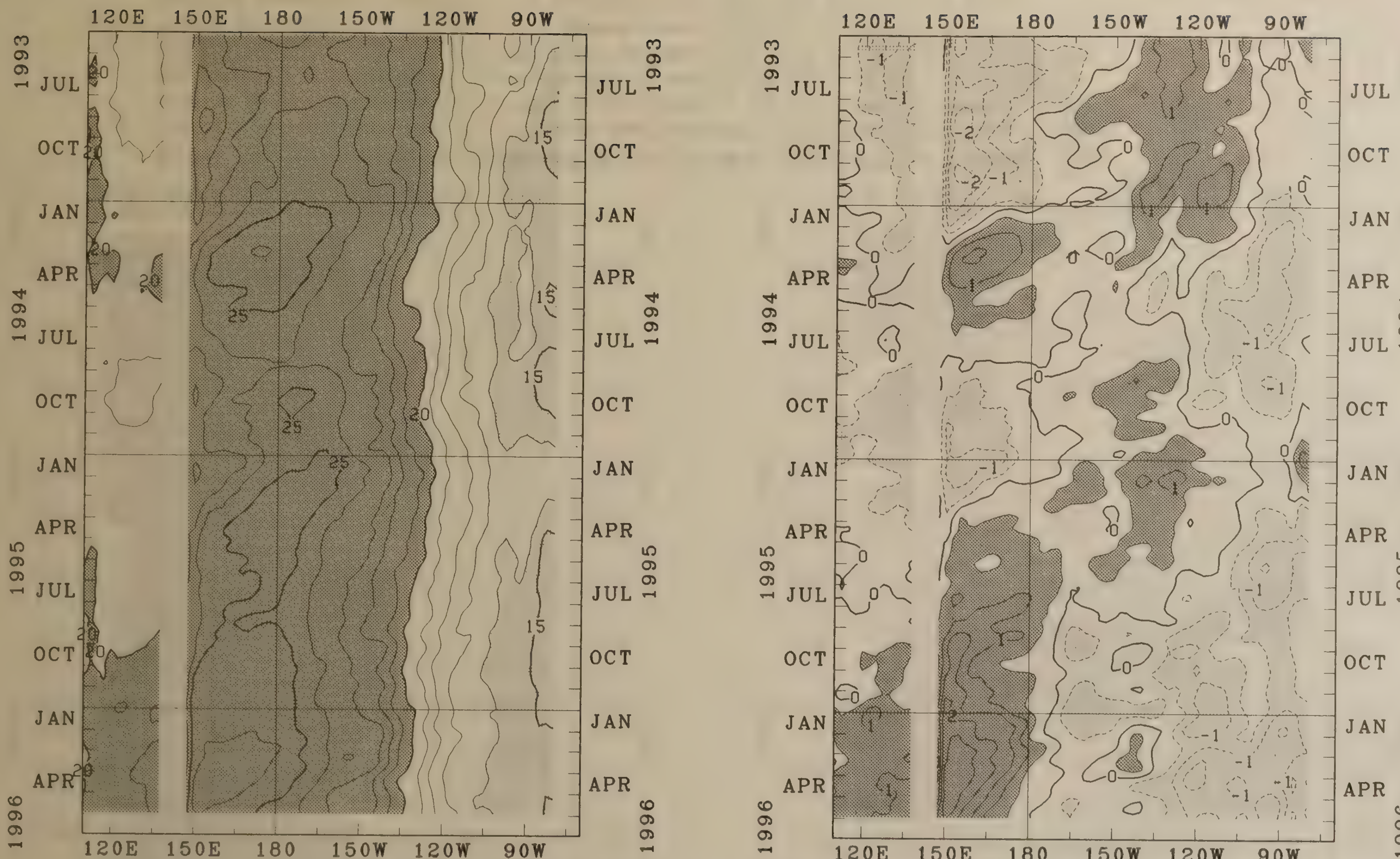
Time-Longitude Section of Ocean Heat Content & Anomalies (Eq.)



第18図　太平洋の赤道に沿う海洋表層の貯熱量（左）及び偏差（右）の時間－経度断面図

Fig.18 Time-longitude sections of ocean heat content in the upper 260m along the equator (left) and anomalies (right) in the Pacific Ocean. Data are derived from the Ocean Data Assimilation System of JMA. Contour interval is 1°C (left) and 0.5°C (right). Values in the left panel greater than 20°C are shaded and values less than 16°C are spotted. Dashed contours in right panel indicate negative anomalies. Anomalies are computed from 1987-1995 base period means.

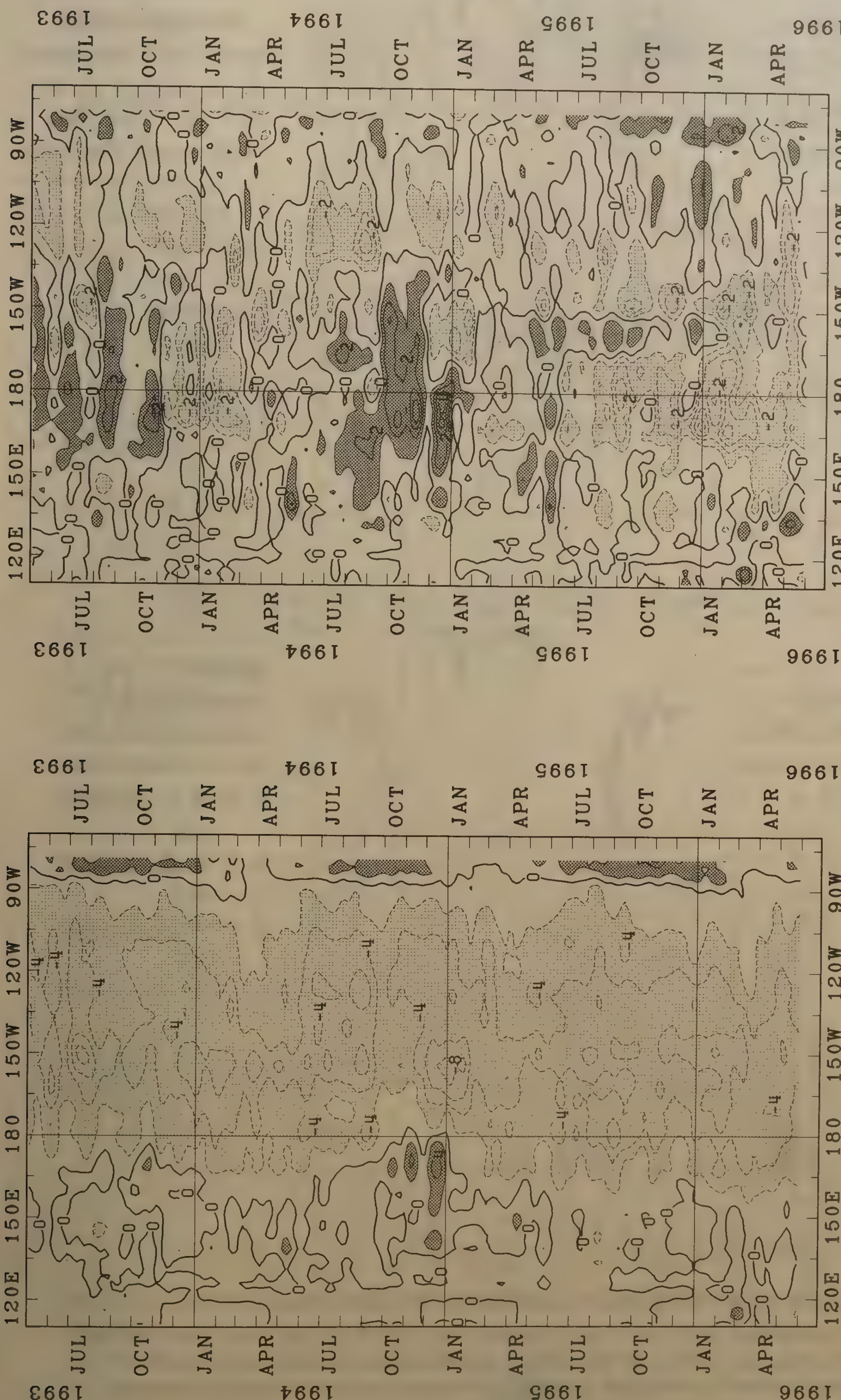
Time-Longitude Section of Ocean Heat Content & Anomalies (6S)



第19図　太平洋の南緯6度線に沿う海洋表層の貯熱量（左）及び偏差（右）の時間－経度断面図

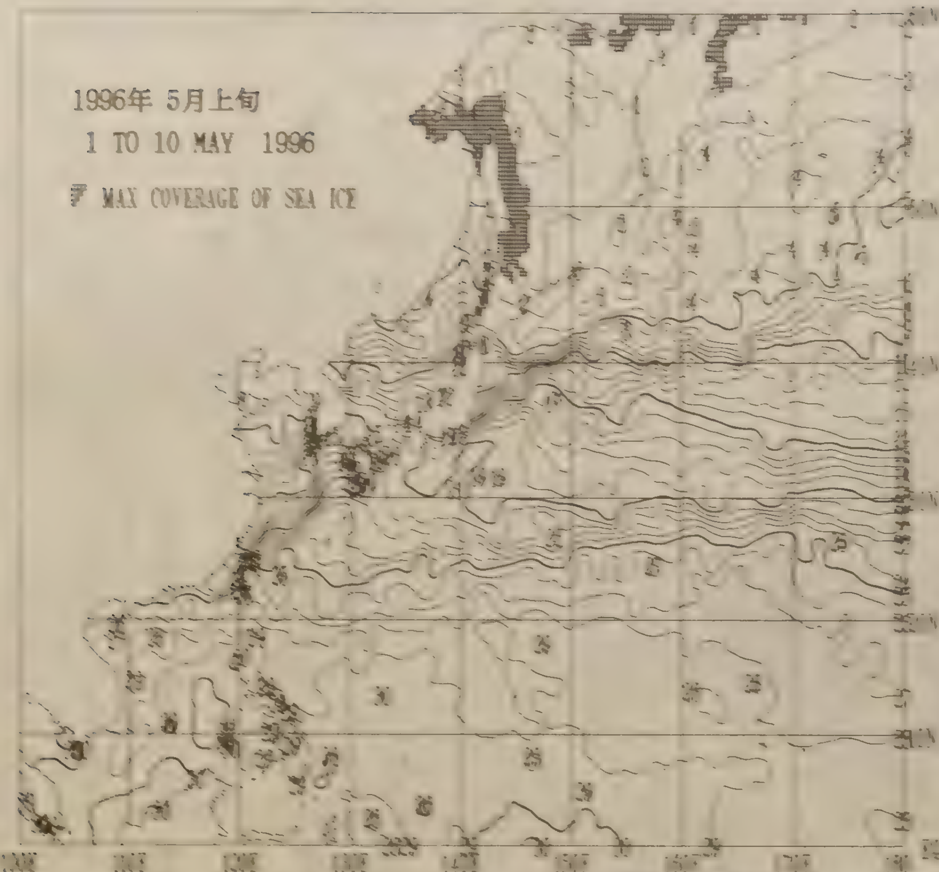
Fig.19 Time-longitude sections of ocean heat content in the upper 260m along 6°S (left) and anomalies (right) in the Pacific Ocean. Data are derived from the Ocean Data Assimilation System of JMA. Contour interval is 1°C (left) and 0.5°C (right) Values in the left panel greater than 20°C are shaded and values less than 16°C are spotted. Dashed contours in right panel indicate negative anomalies. Anomalies are computed from 1987-1995 base period means.

Time–Longitude Section of Surface Zonal Wind Stress & Anomalies (Eq.)



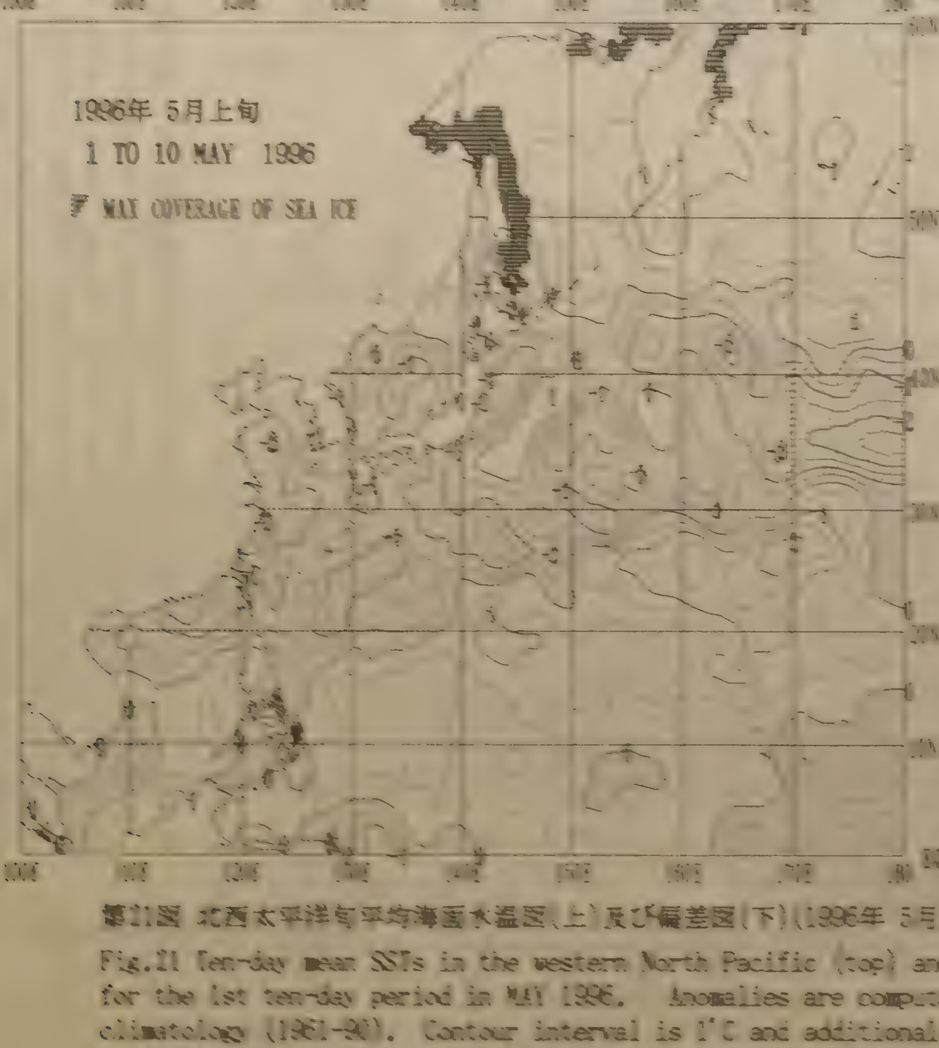
第20図　太平洋の赤道に沿う海面の風応力の東西成分（左）及び偏差（右）の時間－経度断面図

Fig.20 Time-longitude sections of surface zonal wind stress along the equator (left) and anomalies (right) in the Pacific Ocean. Data are derived from the Atmospheric Global Data Assimilation System of JMA. Contour interval is 0.02N/m2 (left) and 0.01N/m2 (right). Dashed contours indicate easterlies (left) and easterly anomalies (right). Anomalies are computed from 1987-1995 base period means.



旬平均沿岸水温(℃)
Coastal Water Temperature

地 点 名 (Index Number)	水温 Temp.	偏差 Anom.
石 垣(47918)	24.1	-1.5
御前崎(47655)	16.1	-1.4
八丈島(47678)	19.9	0.1
小名浜(47598)	11.5	-0.5
宮 古(47585)	7.5	-0.7
江 差(47428)	10.5	-
浜 田(47755)	15.8	-

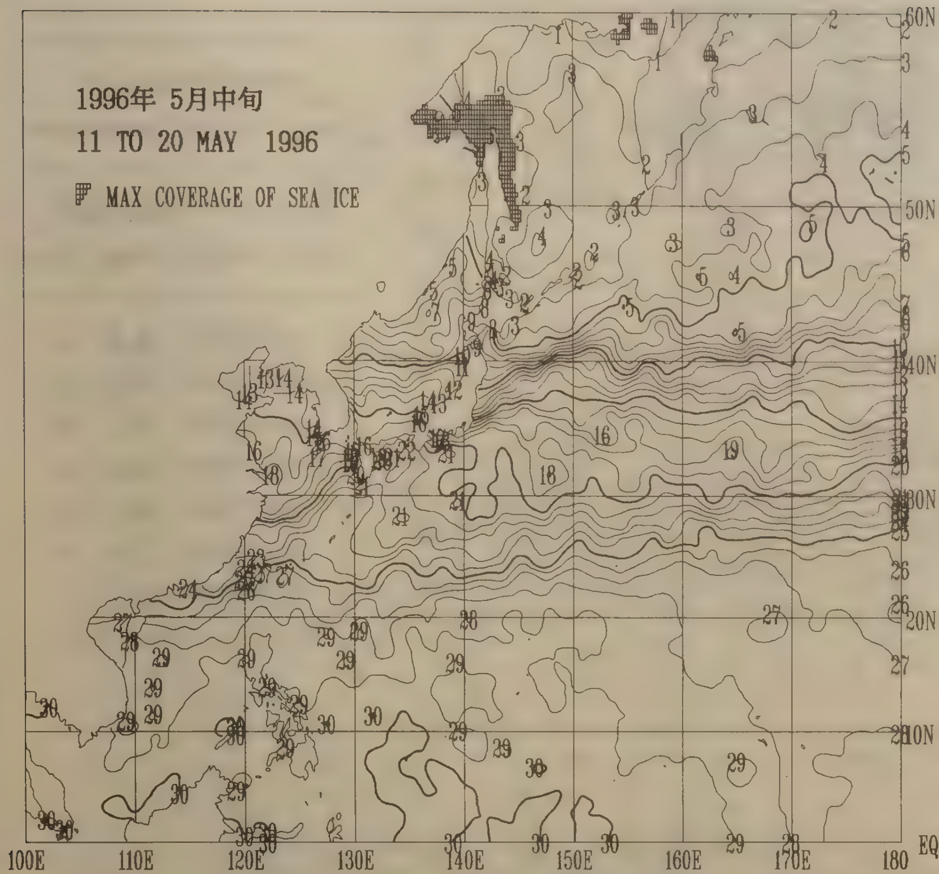


海洋気象ブイロボット
旬平均海面水温(℃)
Ocean Data Buoy SST

日 本 海	37.9N,134.5E	11.0
四 国 沖	29.0N,135.0E	20.9
東シナ海	28.2N,126.3E	22.6

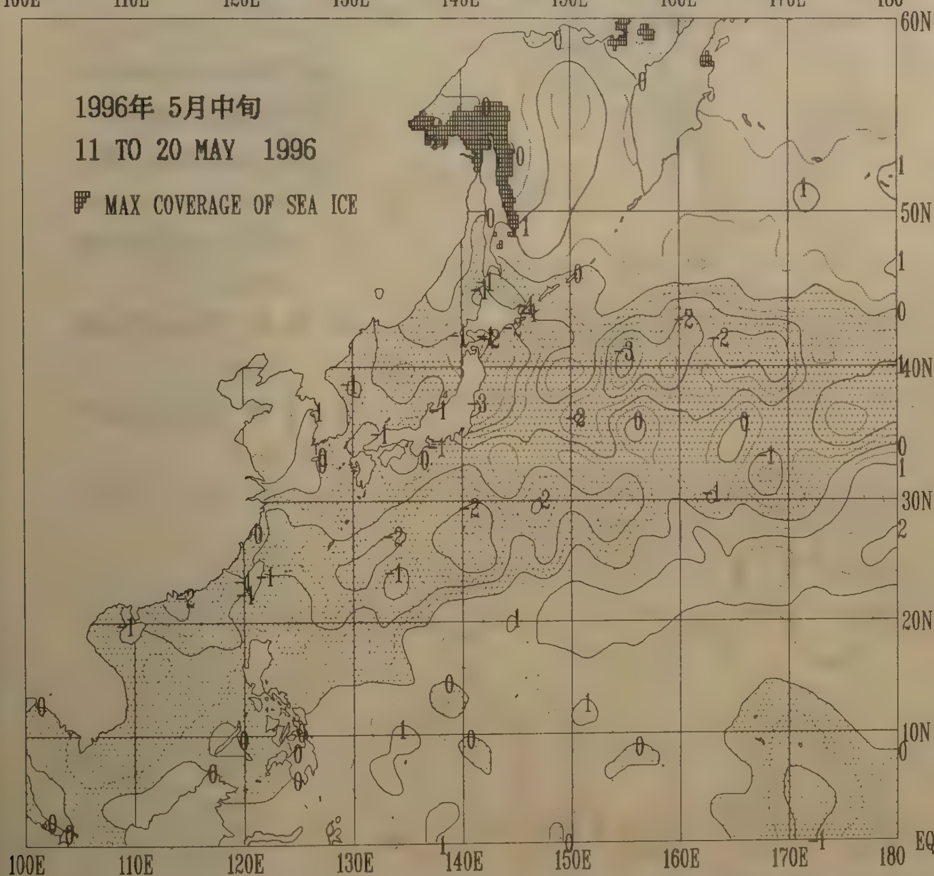
第21図 北西太平洋旬平均海面水温図(上)及び偏差図(下)(1996年 5月上旬)

Fig.21 Ten-day mean SSTs in the western North Pacific (top) and anomalies (bottom) for the 1st ten-day period in MAY 1996. Anomalies are computed from the JMA climatology (1961-90). Contour interval is 1°C and additional anomaly contours of 0.5°C are shown as broken lines. Negative anomalies are spotted.



旬平均沿岸水温(℃)
Coastal Water Temperature

地 点 名 (Index Number)	水温 Temp.	偏差 Anom.
石 垣(47918)	24.0	-2.2
御前崎(47655)	16.9	-1.7
八丈島(47678)	20.3	-0.4
小名浜(47598)	12.1	-0.8
宮 古(47585)	8.4	-0.7
江 差(47428)	10.1	-
浜 田(47755)	17.1	-



海洋気象ブイロボット
旬平均海面水温(℃)
Ocean Data Buoy SST

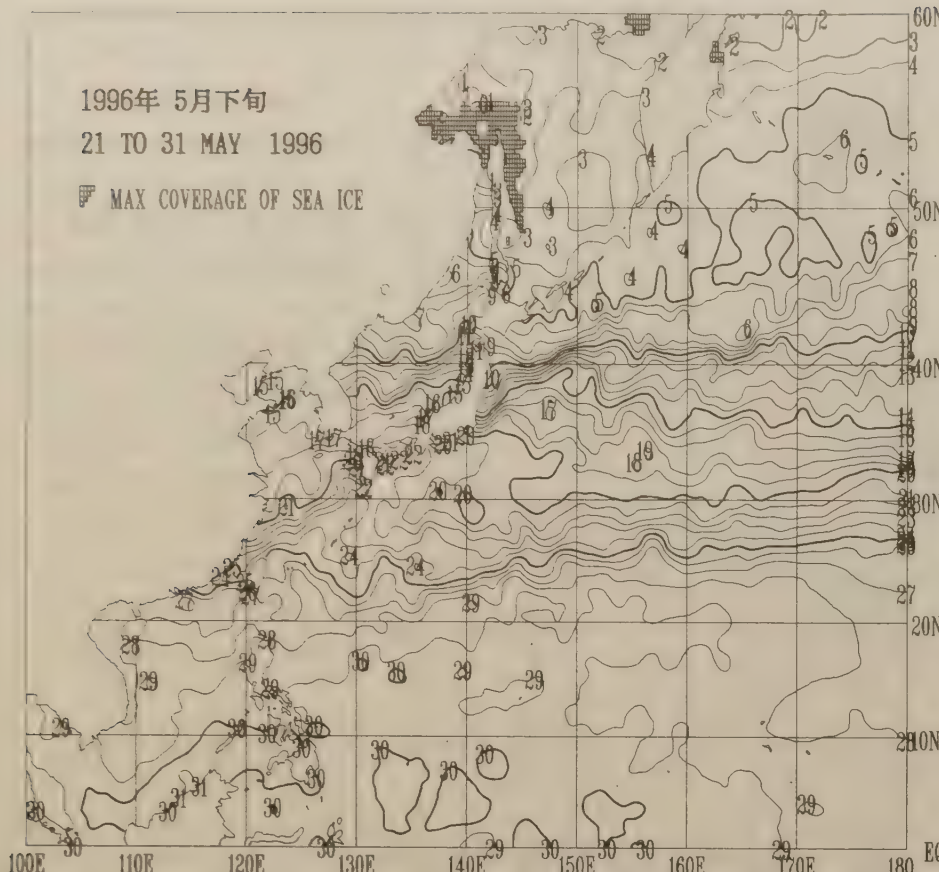
日 本 海 37.9N,134.5E
12.6

四 国 沖 29.0N,135.0E
20.8

東シナ海 28.2N,126.3E
23.0

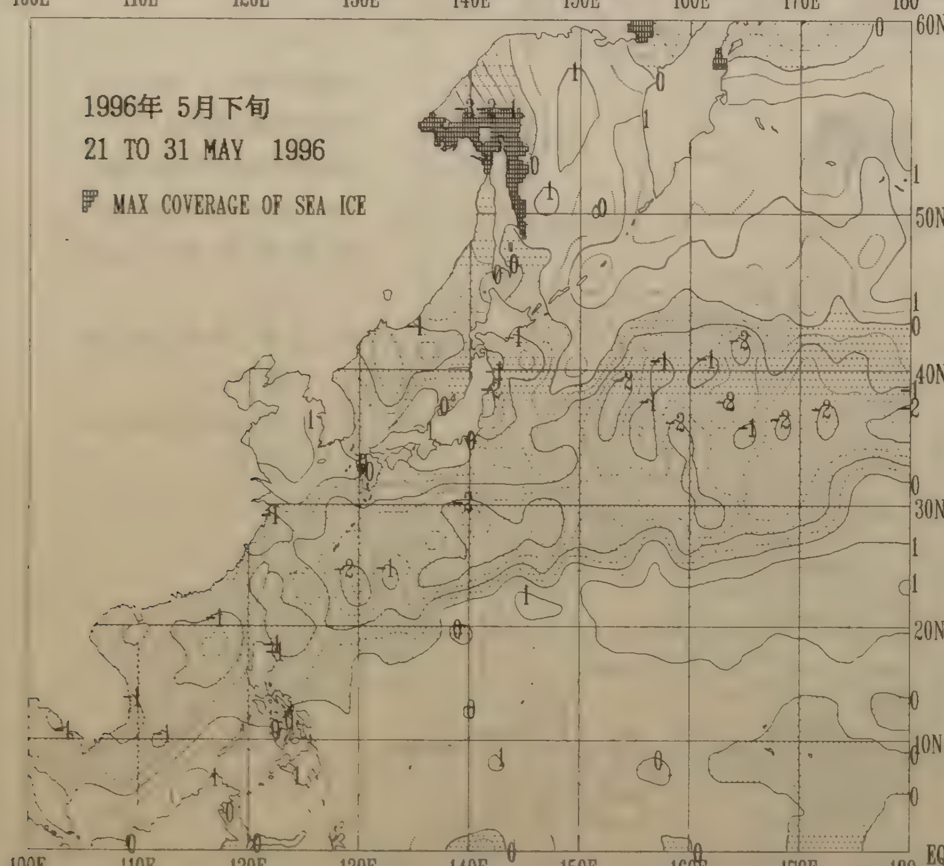
第22図 北西太平洋旬平均海面水温図(上)及び偏差図(下)(1996年 5月中旬)

Fig.22 Ten-day mean SSTs in the western North Pacific (top) and anomalies (bottom) for the 2nd ten-day period in MAY 1996. Anomalies are computed from the JMA climatology (1961-90). Contour interval is 1°C and additional anomaly contours of 0.5°C are shown as broken lines. Negative anomalies are spotted.



旬平均沿岸水温(℃)
Coastal Water Temperature

地点名 (Index Number)	水温 Temp.	偏差 Anom.
石　垣(47918)	24.9	-1.6
御前崎(47655)	18.9	-0.7
八丈島(47678)	21.7	0.6
小名浜(47598)	13.0	-0.4
宮　古(47585)	10.1	-0.1
江　差(47428)	12.4	-
浜　田(47755)	19.1	-

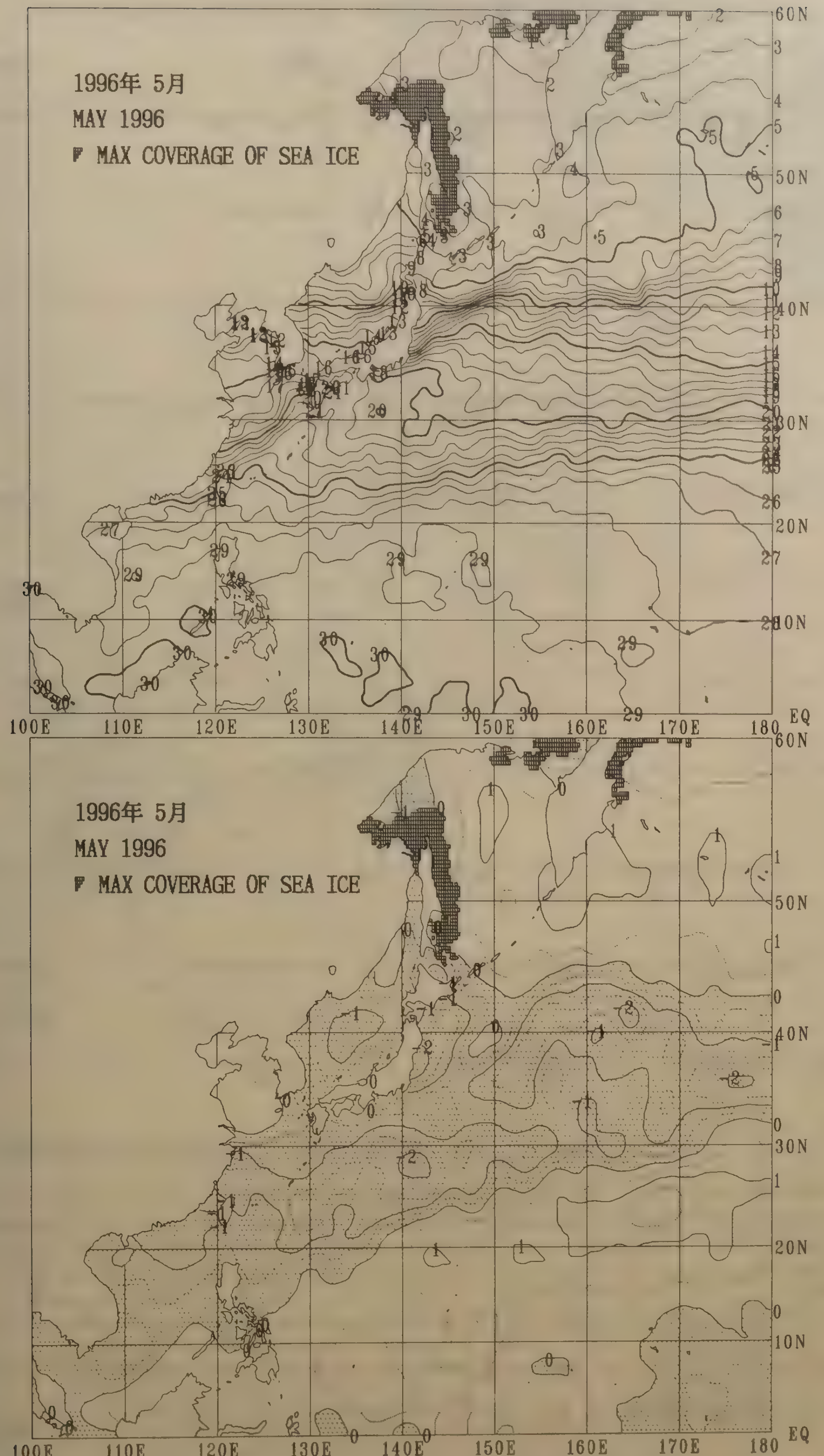


海洋気象ブイロボット
旬平均海面水温(℃)
Ocean Data Buoy SST

日本海	37.9N,134.5E	14.6
四国沖	29.0N,135.0E	20.6
東シナ海	28.2N,126.3E	23.8

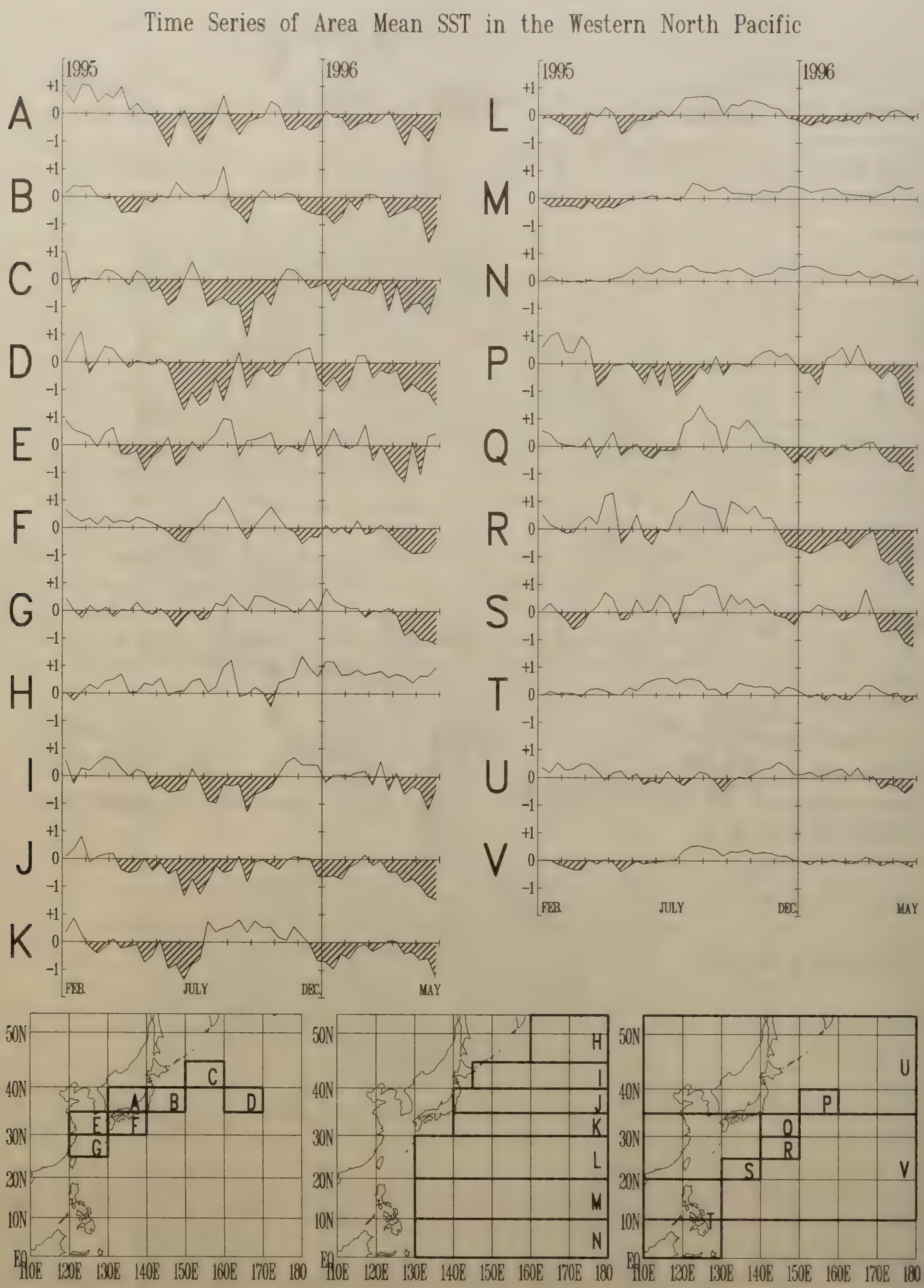
第23図 北西太平洋旬平均海面水温図(上)及び偏差図(下)(1996年 5月下旬)

Fig.23 Ten-day mean SSTs in the western North Pacific (top) and anomalies (bottom) for the 3rd ten-day period in MAY 1996. Anomalies are computed from the JMA climatology (1961-90). Contour interval is 1°C and additional anomaly contours of 0.5°C are shown as broken lines. Negative anomalies are spotted.



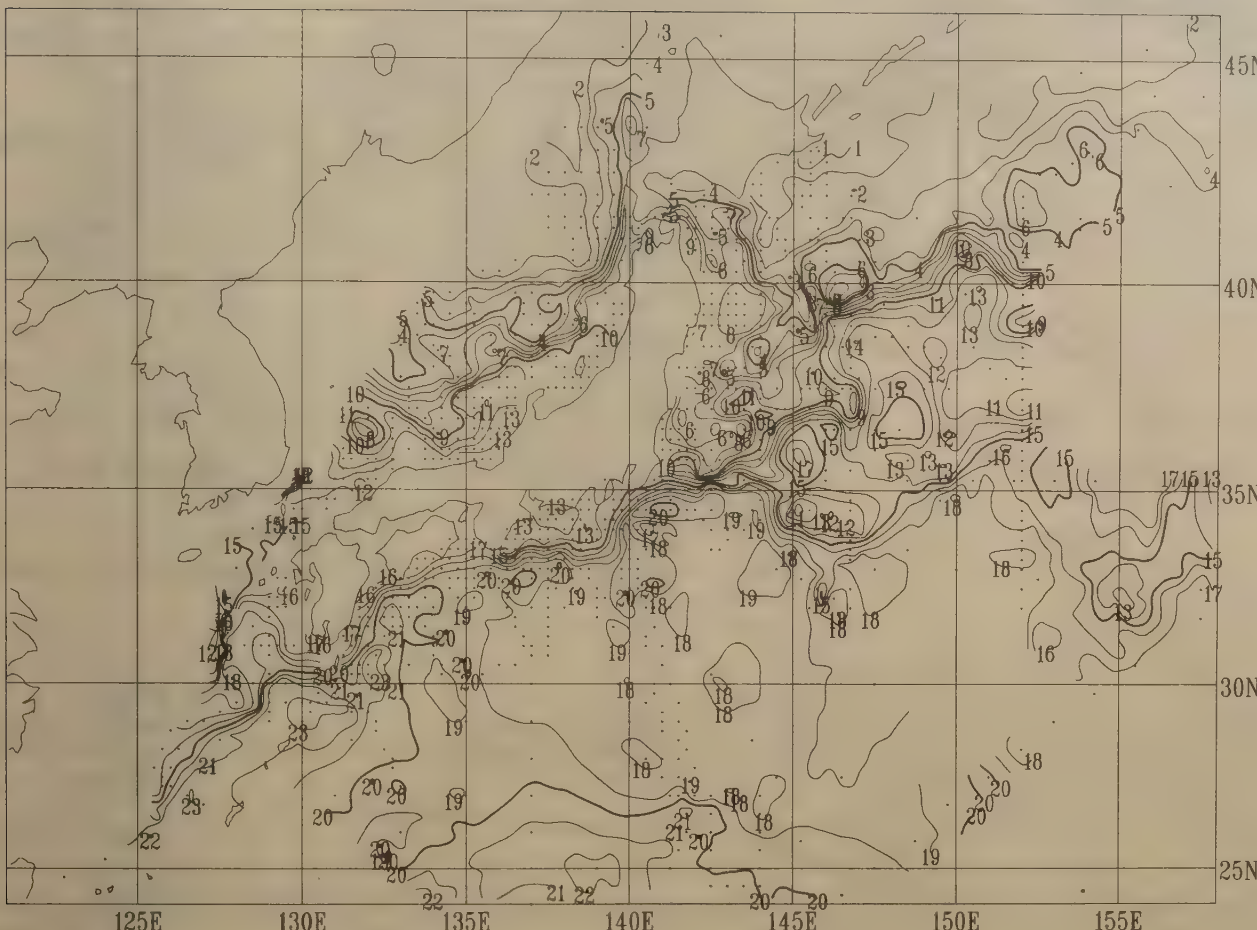
第24図 北西太平洋月平均海面水温図(上)及び偏差図(下)(1996年 5月)

Fig.24 Monthly mean SSTs in the western North Pacific (top) and anomalies (bottom) for MAY 1996. Anomalies are computed from the JMA climatology (1961-1990). Contour interval is 1°C and additional anomaly contours of 0.5°C are shown as broken lines. Negative anomalies are spotted.



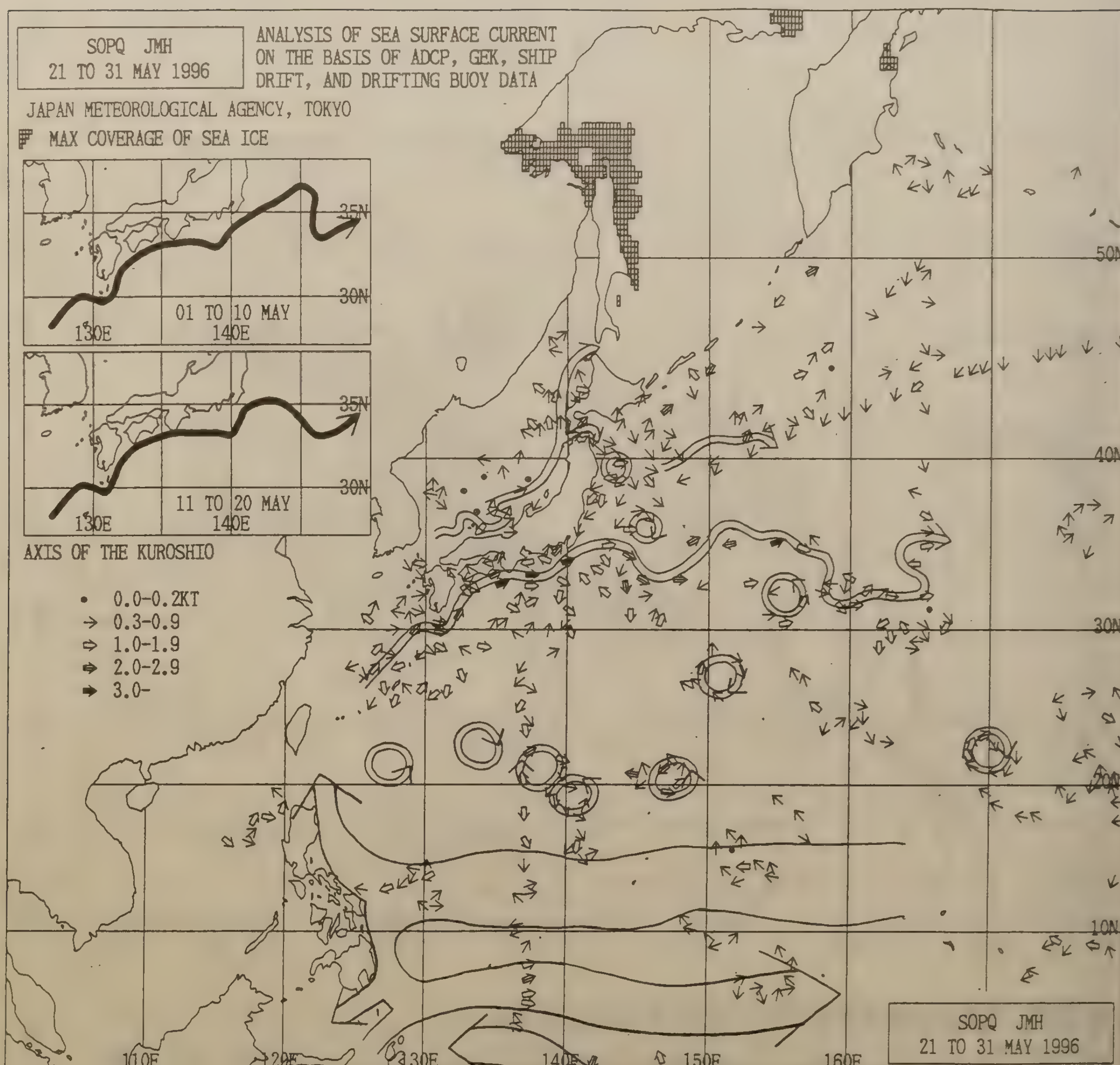
第25図　北西太平洋旬平均海面水温平年偏差時系列図

Fig.25 Time series of the ten-day mean sea surface temperature anomalies (°C) in the western North Pacific for the areas indicated at the bottom. Negative anomalies are shaded. Anomalies are computed from the JMA climatology (1961-90).



第26図　日本近海表層水温(深さ100m)図 (1996年 5月)

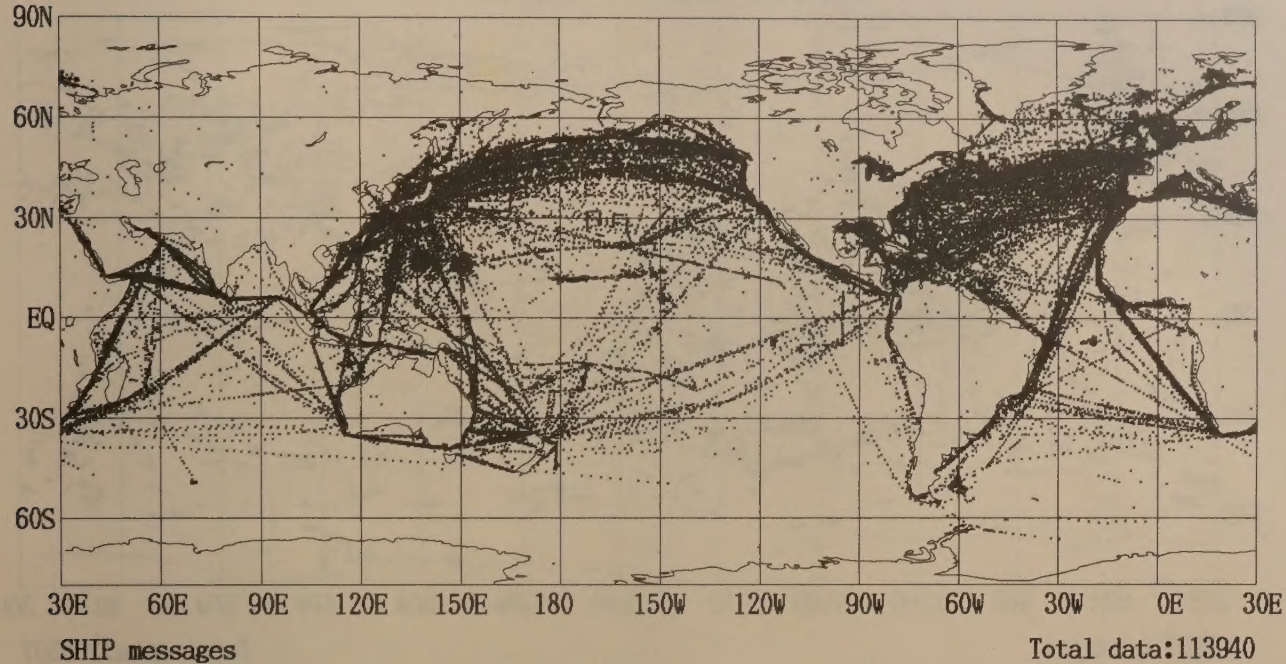
Fig.26 Subsurface (100m) temperatures in seas adjacent to Japan for MAY 1996. Contour interval is 1°C. Observation points are denoted by dots.

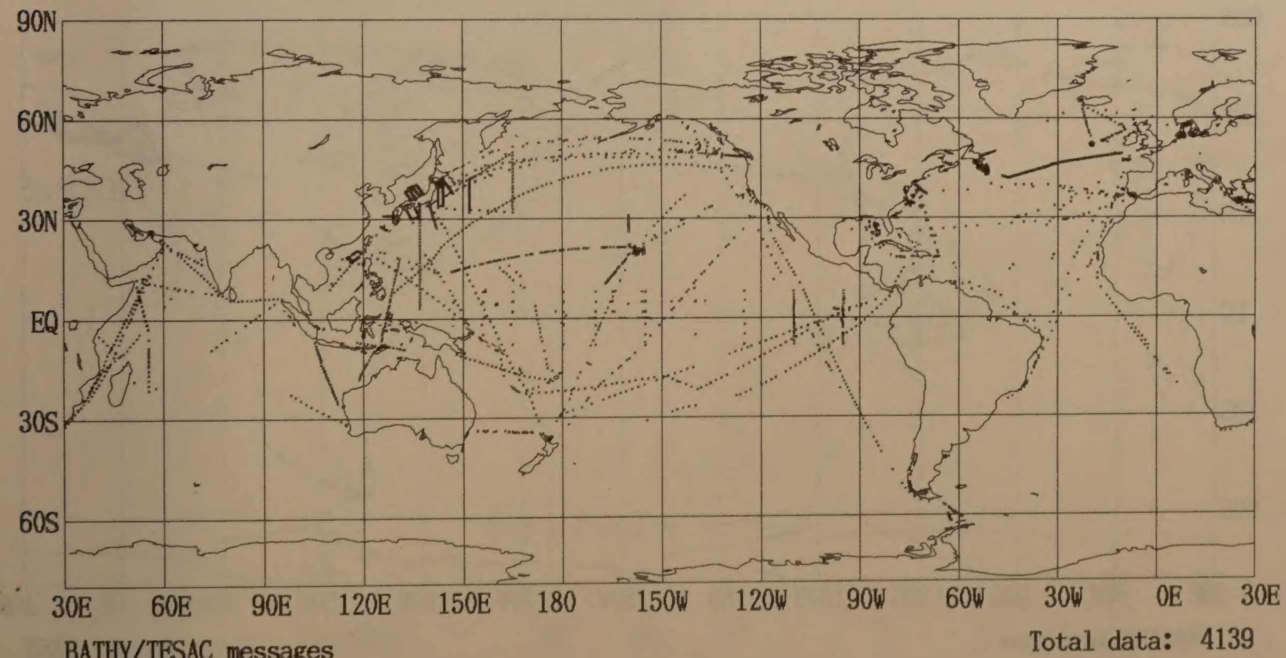


第27図　北西太平洋海流図（1996年 5月下旬）

Fig.27 Analysis of the sea surface current in the western North Pacific for the 3rd ten-day period in MAY 1996. Small arrows indicate sea surface currents measured with acoustic Doppler current profilers, GEKs deployed in research vessels, and ship drift by merchant ships/drifting buoys during the month. Major currents such as the Kuroshio and the North Equatorial Current are denoted by larger open arrows.

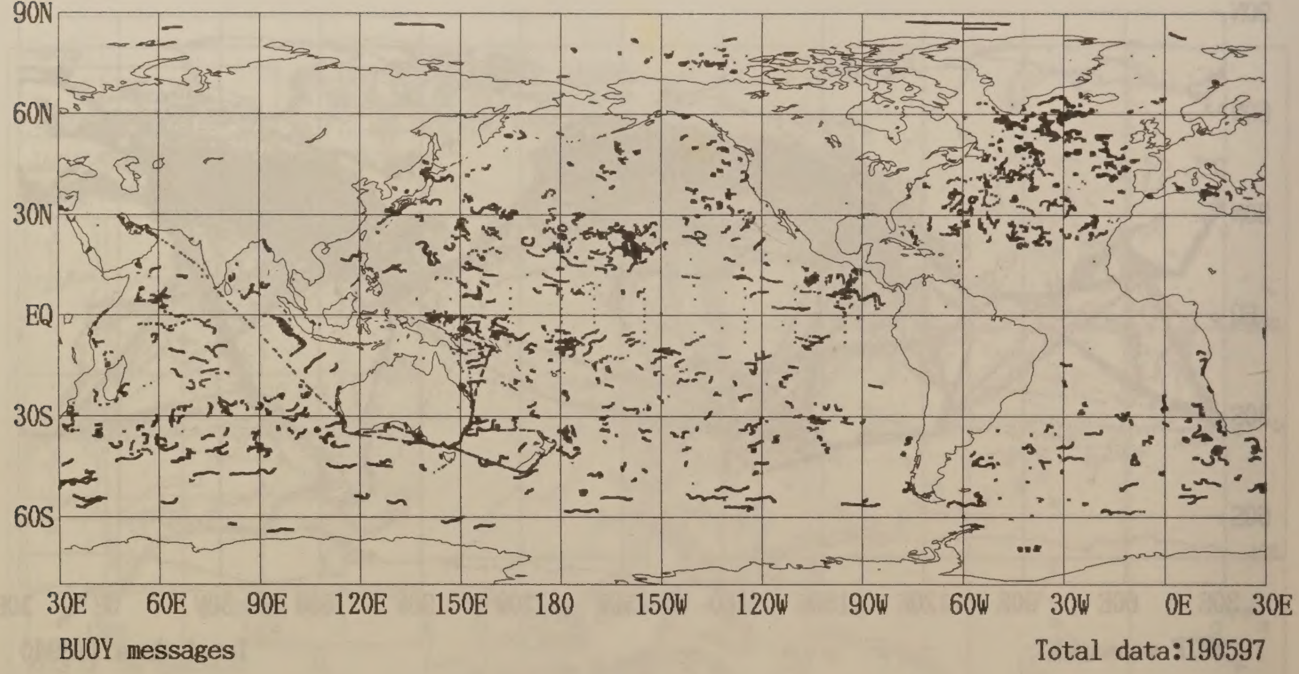
Geographical Distribution of Oceanographic Data

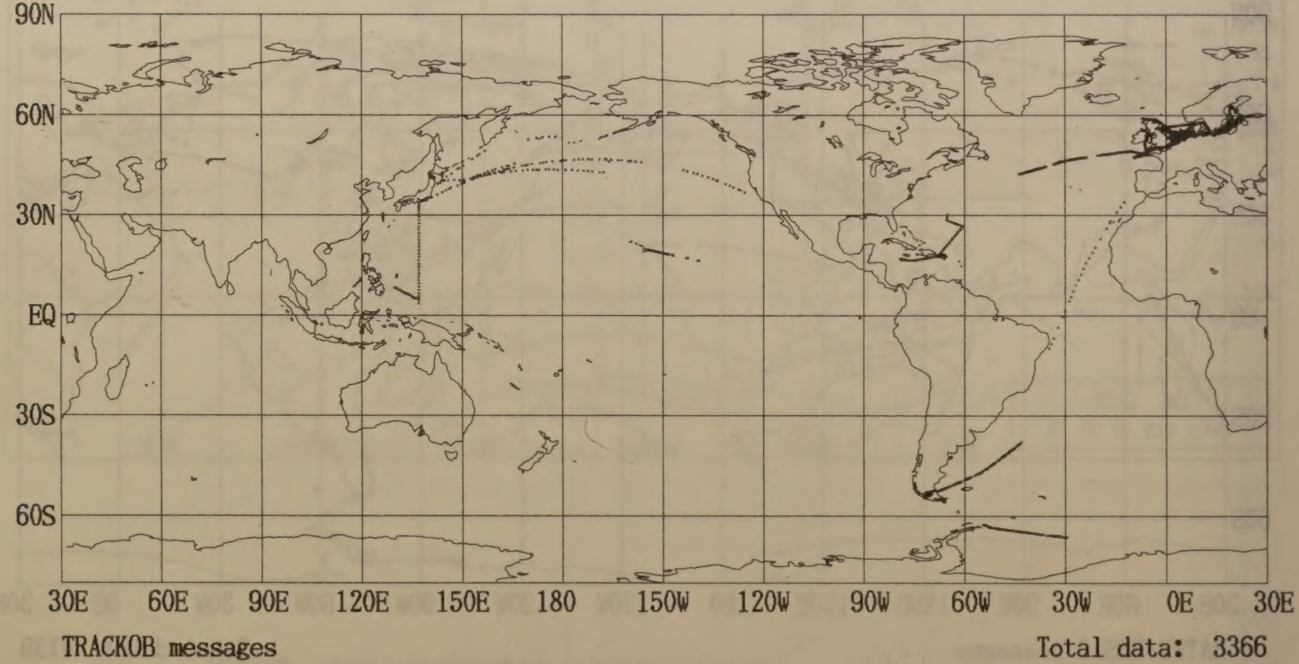




第28-1図　測点分布図(1996年 5月)

Fig.28-1 Geographical distribution of SHIP messages (SST data, top) and BATHY/TESAC messages (subsurface temperature data, bottom) for MAY 1996.





第28-2図 測点分布図(1996年 5月)

Fig.28-2 Geographical distribution of BUOY messages (buoy drift and SST data, top) and TRACKOB messages (ship drift and SST data, bottom) for MAY 1996.

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